SERVICE MANUAL

GK-125R【92/61】

July 04
High Power Engine

HER CHEE INDUSTRIAL CO., LTD.

Preface

The Service Manual in reference is provided as the technical information for checking and preparation of **ADLY GK-125R GO-KART** and the edit description is given in diagrams with " Operation Sequence ", " Highlights " and " Checking Arrangement " for reference of the service staffs.

The information, illustrations or contents included in this manual may be different with the actual scooter in case specifications are changed. Your understanding will be appreciated.

HER CHEE INDUSTRIAL CO., LTD.

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ASSEMBLY INSTRUCTION

(For GK-125R)

1. Take out the battery and fill with acid liquid. Pre-charge the battery will extend its life. The preparation and charge procedure is based on the battery's instruction.

2. Install the rear wheels and parts in the following order:
   A. 16x40x5mm washer.
   B. 16mm hex-bolt (torque 750~950 kg-cm, 74~93 N-m).
   C. Cotter pin (open up the end after installed).
   D. Rubber cap.

3. Install the front wheels and parts in the following order:
   A. 12x40x4.5mm washer.
   B. 12mm hex-bolt (torque 300~350kg-cm, 29.5~34N-m).
   C. Cotter pin (open up the end after installed).
   D. Rubber cap.

4. Install the battery with the red wire to positive (+) and black wire to the negative (-). After the battery is connected, put the plastic cover on it. Place the steel bracket over the cover and tie up with 2 hex-bolts.

5. Install the fuel tank on the rear rack and fuel valve on the frame. Fill up with unleaded fuel and turn the fuel valve to ON position.

6. Install the seat from front. Pull the lock lever under the seat and fit into the seat rail. Push back to set into proper position and release the lock lever.

7. Install the L/R roller cage tube started from the front of frame. Push the clip on the frame and set tube onto the frame. Install the rear tube to the frame.

8. Install the top roller cage cross tube. The shorter tube is in the front and longer one for the rear. Tie-up 4 hex-bolts to fix the top roller cage cross bar and 4 hex-socket bolts to fix the L/R tube on the frame.

9. Turn on the main switch and try to start the engine. In order to use the electric starter, you need to check the following:
   A. Step on the brake pedal for safety.
   B. Turn the main switch to right in order to start the engine.
   C. Do not continue to start up the engine for more then 10 seconds.

P.D.I. (Pre-Delivery Inspection)

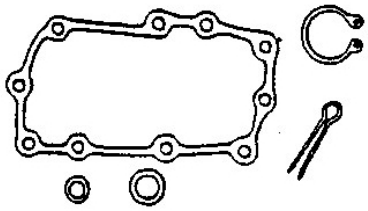
(For GK-125R)

- ☐ 1. Record the frame and engine number into the owner's manual.
- ☐ 2. Check that all tires have correct pressure specified on the tire or in the owner's manual.
- ☐ 3. Engine oil (4 stroke, 10W/40) is enough.
- ☐ 4. Battery is installed properly.
- ☐ 5. All brake cables are adjusted properly.
- ☐ 6. Fuel tank has enough gasoline to operate.
- ☐ 7. Check the suspension and drive chain for proper setup.
- ☐ 8. Check that all electrical components and lights are working properly.
- ☐ 9. Make sure that the owner's manual and tool bag are installed properly.

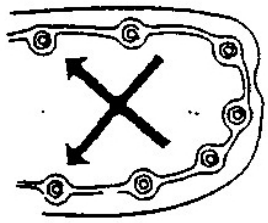
INFORMATION FOR PREPARATION

Attention on Operation

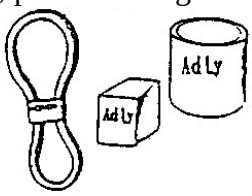
- All washers, oil rings, clamp rings, opening pins shall be duly replaced by a new item when dismounted.



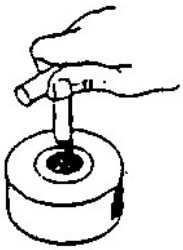
- Locking of all screws, nuts, cross screws shall be performed in the order of first the large screws and then the small ones and from inside to outside in opposite angles by tightening the torque locks.



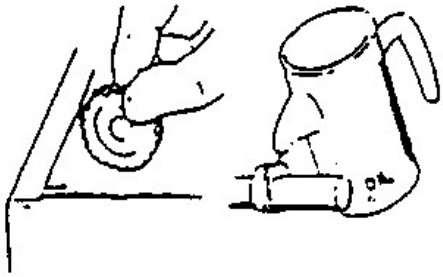
- All items must use original parts, pure oil and greases.



- All service shall use special tools and general tools to repair.



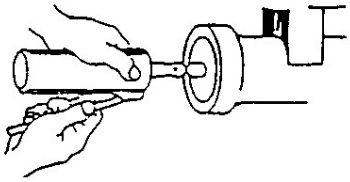
- All dismounted items requiring for checks shall be duly cleaned and for assembly, all items shall be duly lubricated.



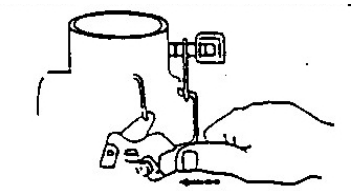
INFORMATION FOR PREPARATION

Attention on Operation

- Certified lubricants in cans shall be used on all the elements to be lubricated.



- After assembly, performance of all elements shall be duly checked and the locking shall be duly verified.



- In case of an operation is performed by over 2 people, the assignment shall be conducted in coordination and safety shall be the first priority.

- Definition of signs:

The sign given in the Service Manual shall refer to the operation methods and observation.

OIL：lubrication by designated lubricant

GREASE： Lubrication by grease

Special Tool： Parts on which special tools shall be used

General Tool： General tools shall be used

New： Replace by new items after dismounting

Attention

Dangerous and important operations

INFORMATION FOR PREPARATION

SPECIFICATION

TYPE	GK-125R
LENGTH	1780 mm
WIDTH	675 mm
HEIGHT	1160 mm
WHEEL BASE	1255 mm
NET WEIGHT	160 kg
ENGINE TYPE	4-STROKE, Single Cylinder
COOLING	AIR COOLED
DISPLACEMENT	124 C.C.
BORE×STROKE	52.4×57.8
COMPRESSION RATIO	9.2:1
IGNITION	C.D.I
STARTER	ELECTRIC / KICK
SUSPENSION	Hydraulic Shock Absorber
TRANSMISSION	AUTOMATIC
TIRE	Front 18*7-7 Rear 18*9.5-8
BRAKE	Front: Drum Rear: Disc

INFORMATION FOR PREPARATION

LOCKING TORQUE

The standard locking torque shall apply in case of no specification.

STANDARD TORQUE：

Type	Locking Torque (kg-m)	Type	Locking Torque (kg-m)
5mm Bolt, Nut	0.5	5 mm Screw	0.4
6mm Bolt, Nut	1.0	6 mm Screw	0.9
8mm Bolt, Nut	2.2	6 mm Face Bolt, Nut	1.2
10mm Bolt, Nut	3.5	8 mm Face Bolt, Nut	2.7
12mm Bolt, Nut	5.5	10 mm Face Bolt, Nut	4.0

CHASSIS：

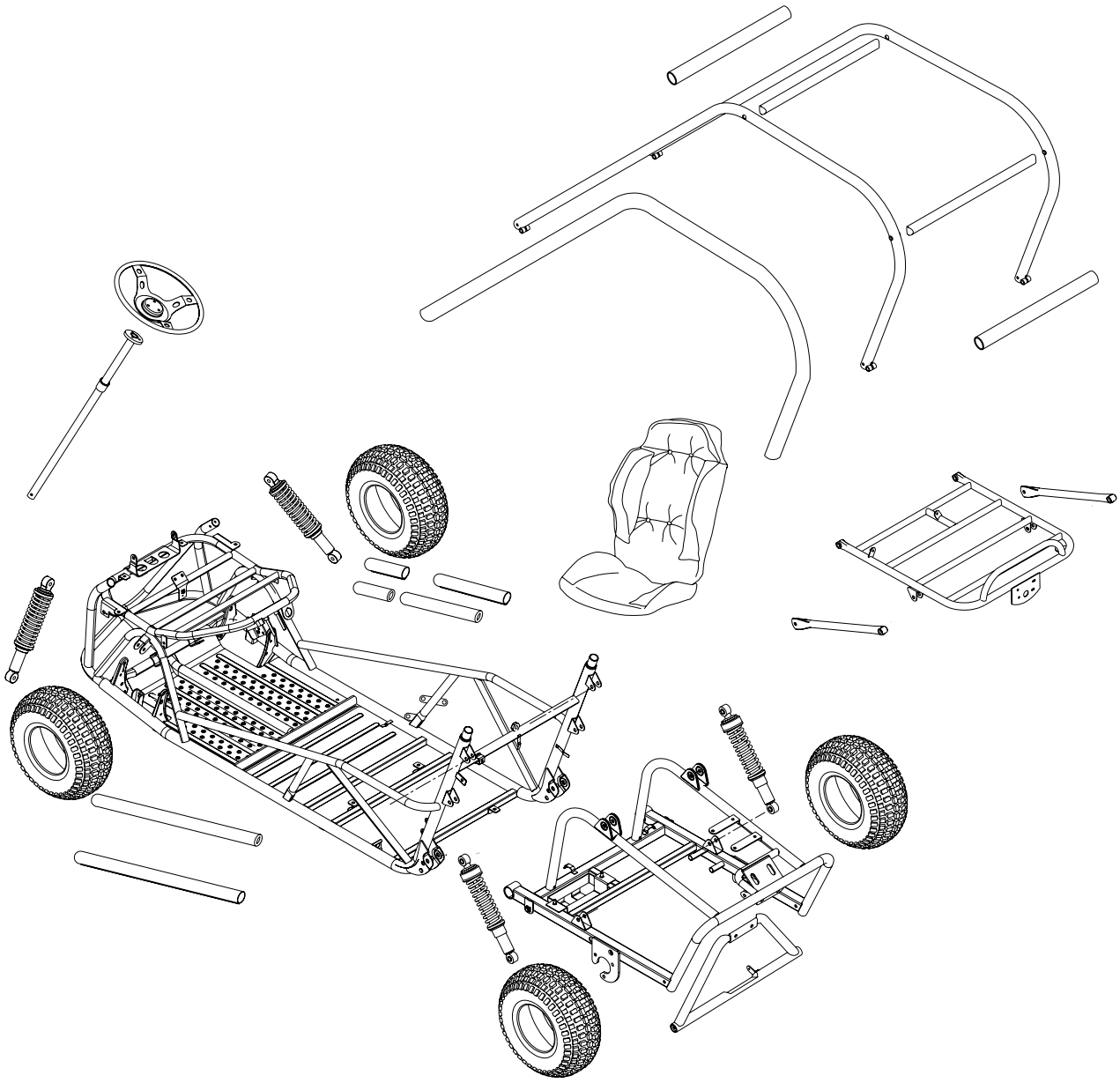
Locking Place	Quantity	Dia. (mm)	Torque (kg-m)	Remark
Handle bar bottom flange nut	1	14	8	Nylon insert type
Ball joint fixed nut	4	10	4.0	Nylon insert type
Engine mounting flange nut	4	8	3.5	
Engine mounting bracket bolt	2	10	4.0	
Foot rest flange bolt	6	8	4.0	
Rear swing arm fixed nut	1	14	9	Nylon insert type
Rear brake panel flange bolt	4	12	7	
Front suspension fixed nut	4	10	4.0	Nylon insert type
Rear suspension flange bolt	2	10	4.0	
Front rim nut	2	12	7	
Rear rim nut	2	16	11	

ENGINE：

Locking Place	Quantity	Dia. (mm)	Torque (kg-m)	Remark
Cylinder Head Bolt A	1	8	0.9	Stud bolt side
Cylinder Head Bolt B	1	8	0.9	
Oil Filter Cap	1	30	1.5	
Exhaust Cylinder Bolt	2	6	0.9	Stud Bolt
Muffler Flange Fixed Bolt	2	6	1.2	
Muffler Bracket Fixed Bolt	2	8	3.5	
Cam Shaft Holder Face Nut	4	8	2.0	
Valve Adjuster Fixed Nut	2	5	0.9	
Gear Oil Releasing Bolt	2	8	1.3	
Clutch Cover Fixed Nut	1	12	5.5	
Drive Face Ass’y Fixed Nut	1	12	5.5	
Pri. Fixed Sheave Fixed Nut	1	12	5.5	
ACG Fly Wheel Fixed Nut	1	12	5.5	
Spark Plug	1	10	1.2	
Starter Clutch Lock Nut	1	22	9.5	Counter Clock type

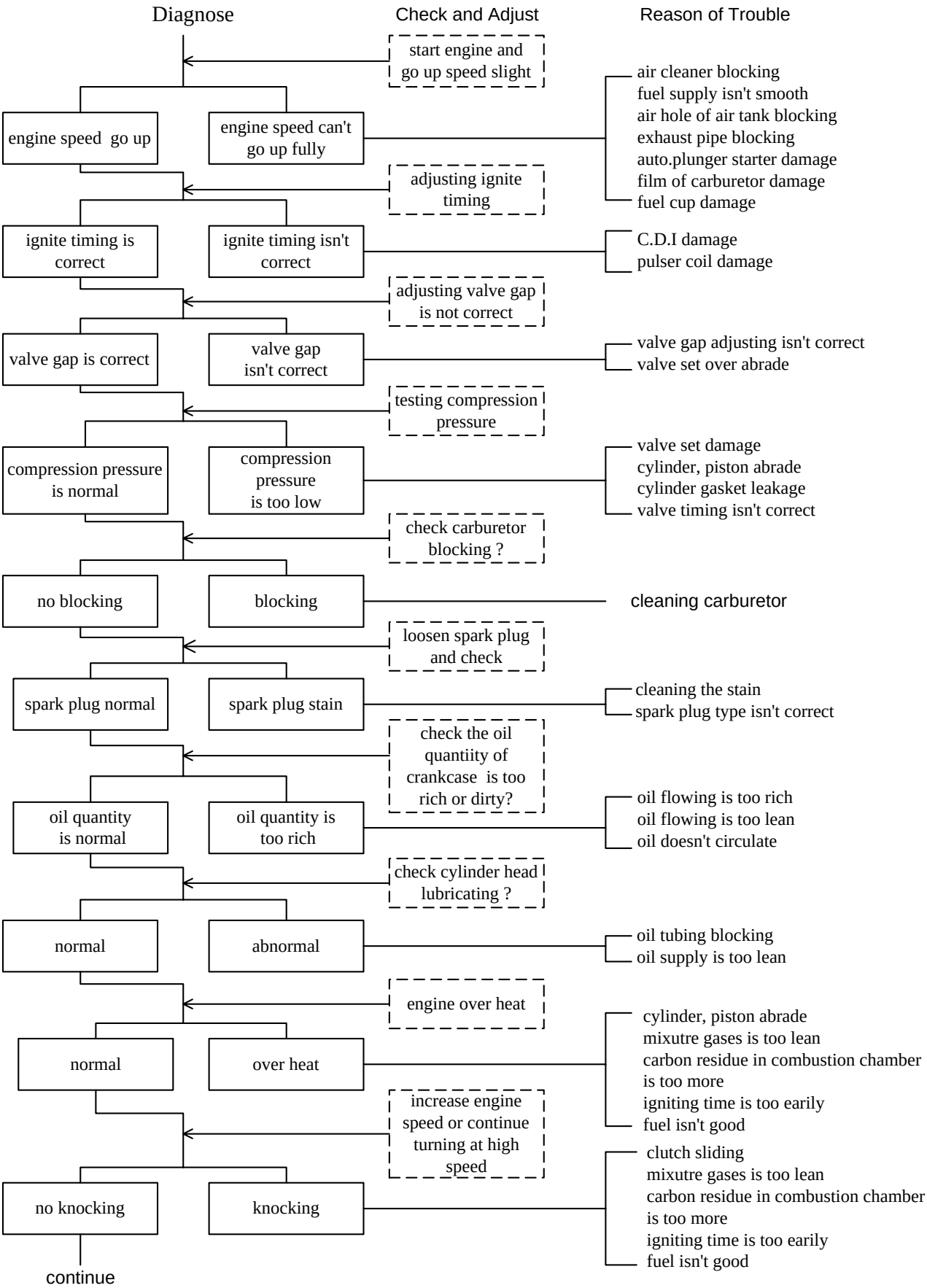
INFORMATION FOR PREPARATION

The following drawing that shows the disassembling situation of the cover parts for GK-125R Go-Gart.

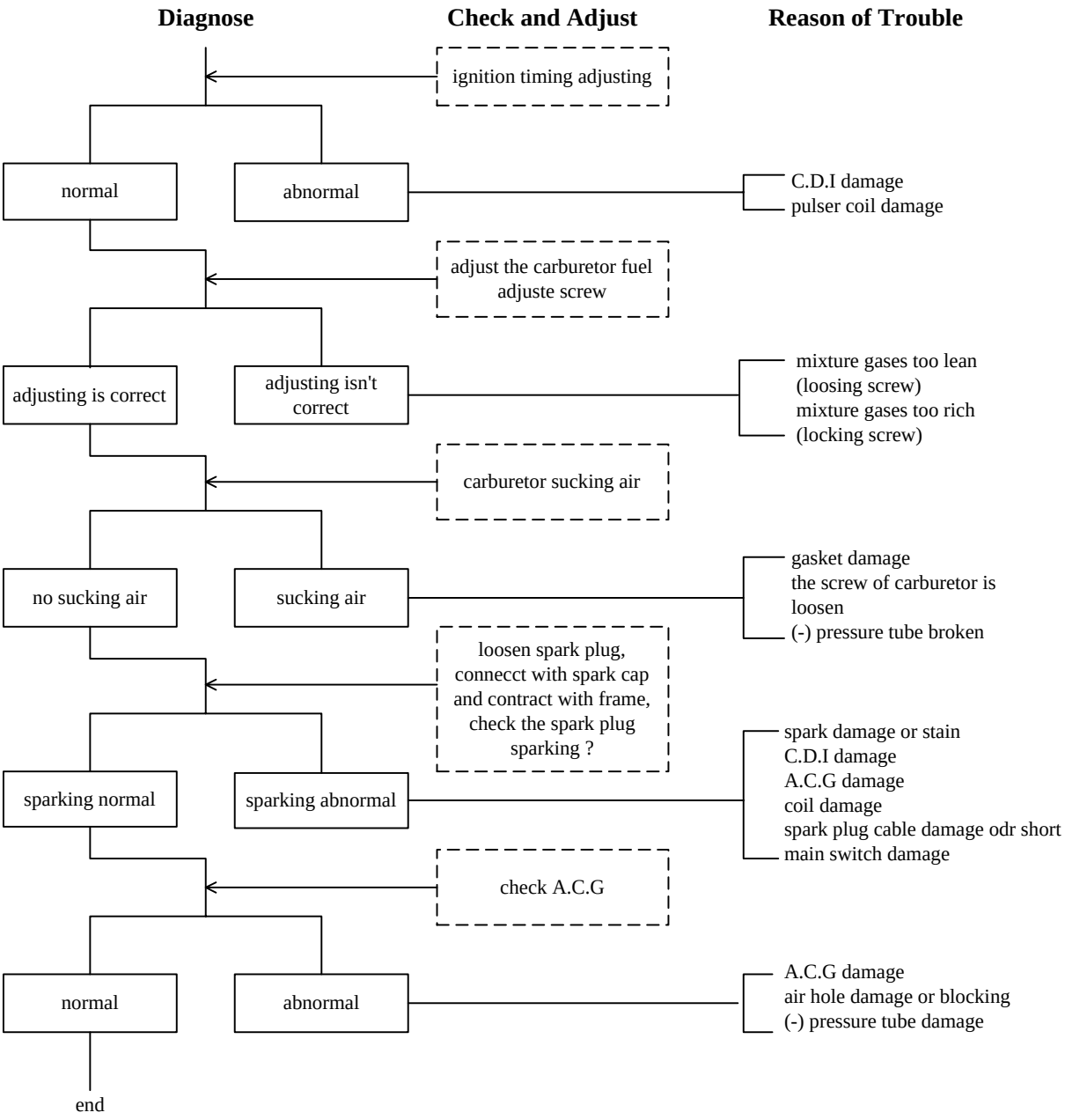


INFORMATION FOR PREPARATION

REVOLUTION NOT SMOOTH , LOST POWER

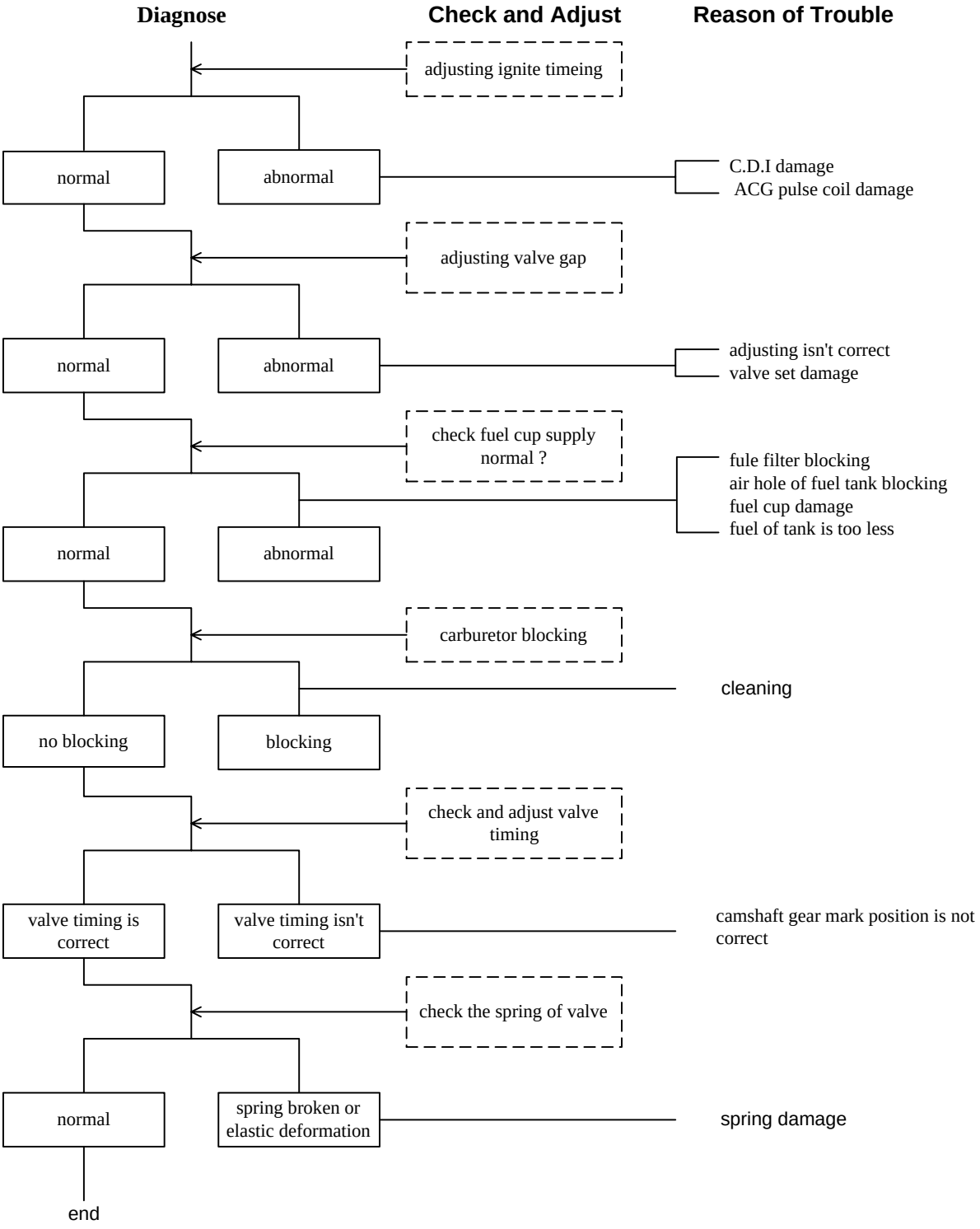


INFORMATION FOR PREPARATION
REVOLUTION NOT STABLE (LOW R.P.M.)

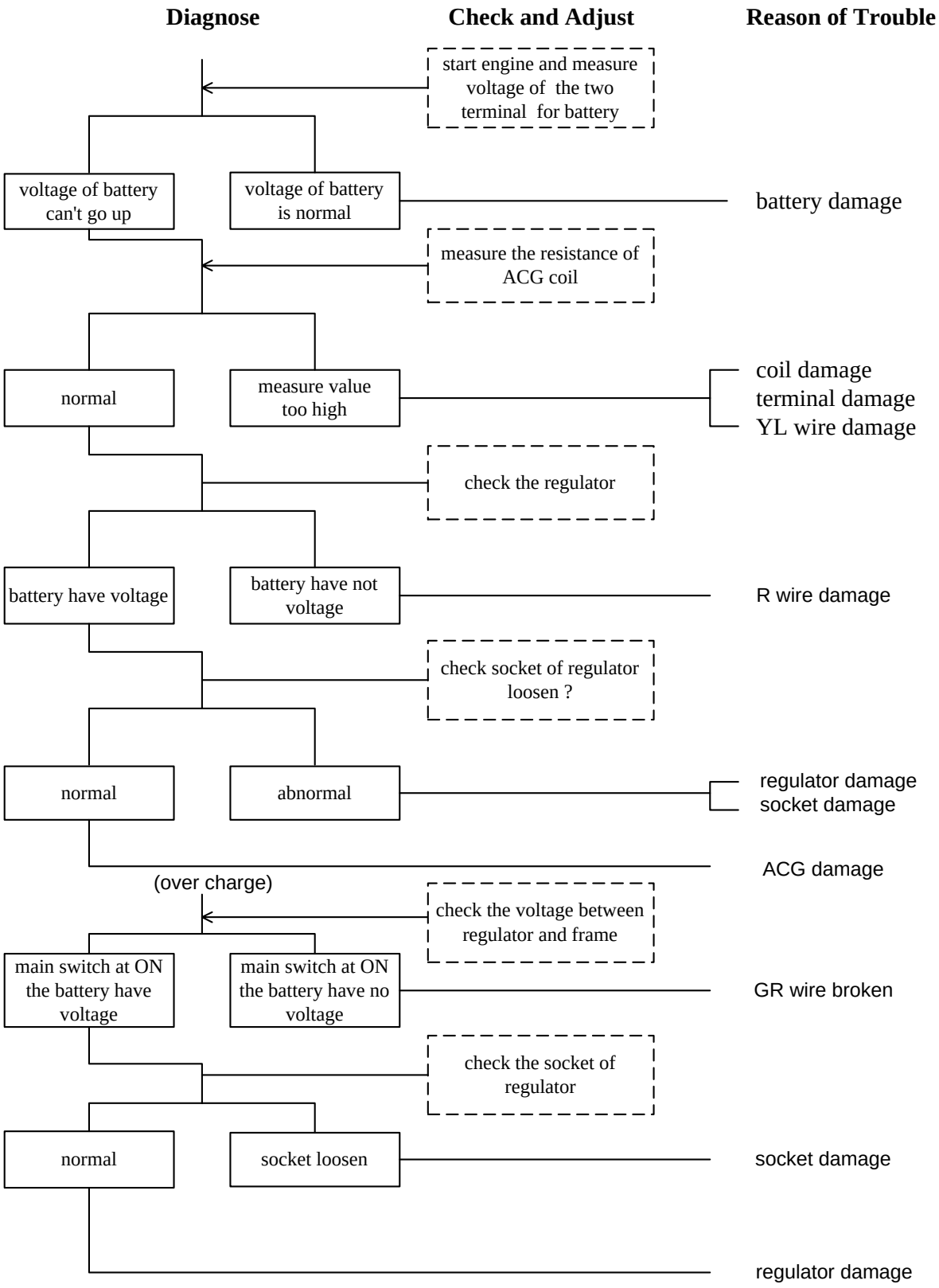


INFORMATION FOR PREPARATION

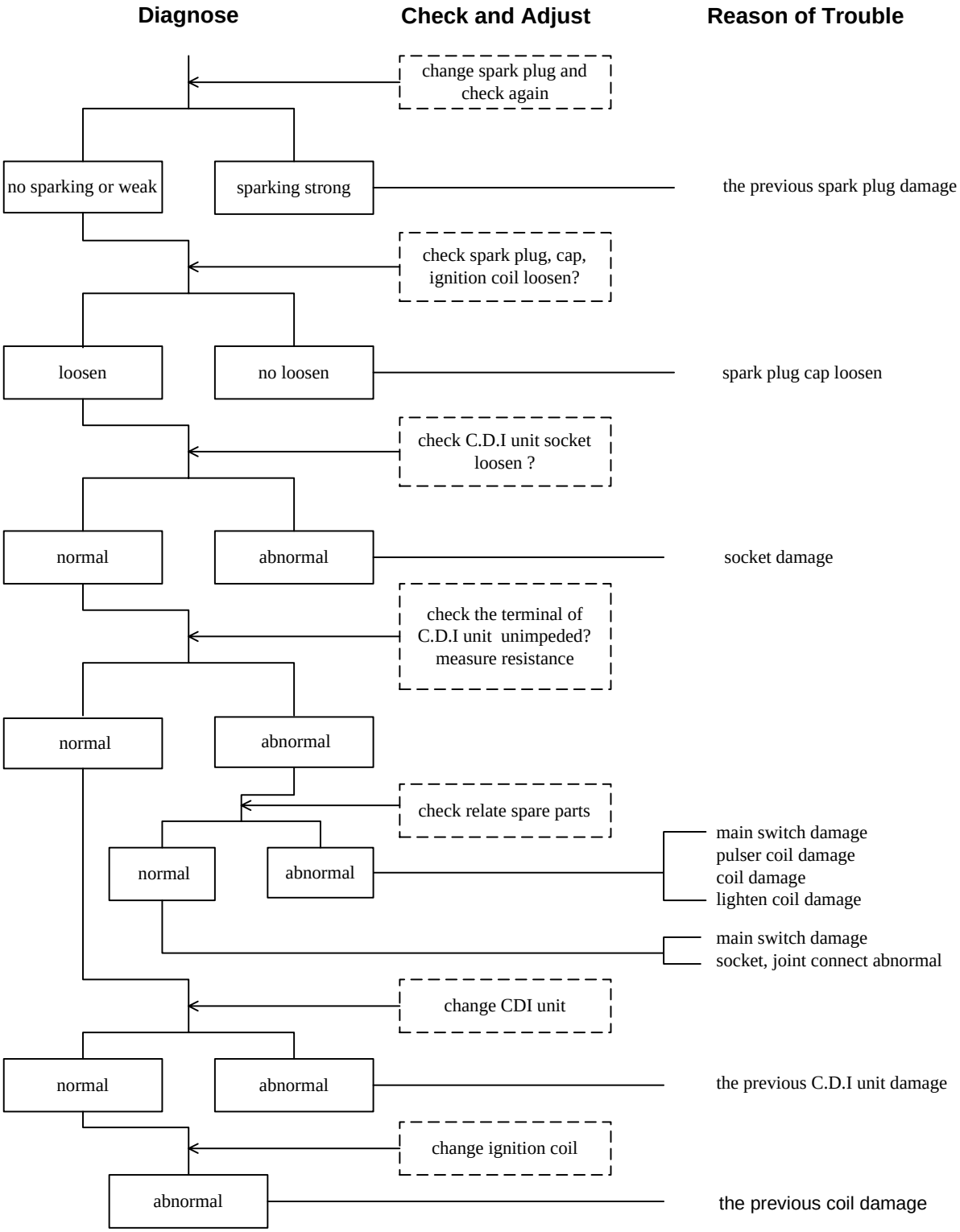
REVOLUTION NOT SMOOTH(HIGH SPEED)



INFORMATION FOR PREPARATION
CHARGE ABNORMAL



INFORMATION FOR PREPARATION
SPARK PLUG NO SPARKING



CHECK AND ADJUST

INFORMATION

WARNNING

- **Do not start the engine at a close zone, because the exhaust gases from the engine including some noxious emission such as CO, HC, NOx... etc. that can result serious damage for ealth.**
- **Strictly prohibit using any flammable thing in the working zone, because that can rise fire easily.**

ENGINE：

ITEM	SPECIFICATION	REMARK
Throttle Free Play	2~6 mm	
Spark Plug Gap	0.6~0.7 mm	
Spark Plug Type	C7HSA	without resistance
	CR7HSA	with resistance
Valve Gap	0.06mm	intake valve
	0.10mm	exhaust valve
Idle Speed	1700±100 rpm	
Engine Oil Capability	0.9 L	resolve the engine
	0.75 L	only change engine oil
Gear Oil	350 cc	resolve the gear
	300 cc	only change gear oil
Compression Pressure	12.8kg/cm^2	570 RPM
Ignite Timing	13° BTDC ±2°	1700±100 rpm

CHASSIS：

ITEM	SPECIFICATION	REMARK
Parking Brake Free Play	10~20 mm	
Front Tire Pressure	1.68 kg/cm^2（24psi）	
Rear Tire Pressure	1.68 kg/cm^2（24psi）	
Torque of Front Tire Nut	3.5 kg-m	
Torque of Rear Tire Nut	11.0 kg-m	

CHECK AND ADJUST

MAINTENANCE SCHEDULE

Please follow the maintenance schedule to do the routine maintenance.
I: Inspection and clean, lubricate, correct, replace if necessary.
A: Adjust. **R:** Replace. **C:** Clean

	Regular Service Mileage (km)											
	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
Engine oil	R	R	R	R	R	R	R	R	R	R	R	R
Oil filter				C				C				C
Fuel filter					R					R		
Gear oil					R					R		
Valve gap		A		A		A		A		A		A
Carburetor				I				I				C
Air cleaner	I				R					R		
Spark plug	Clean the plug for each 3000 km, replace it if necessary.											
Brake system	I	I	I	I	I	I	I	I	I	I	I	I
Belt								I				
Suspension				I				I				I
Nuts, bolts								I				
Tire				I				I				I
Steering	I					I						I

Note：

(1) If the vehicle is new then the motor and gear oil have to replace at the first 300 km.

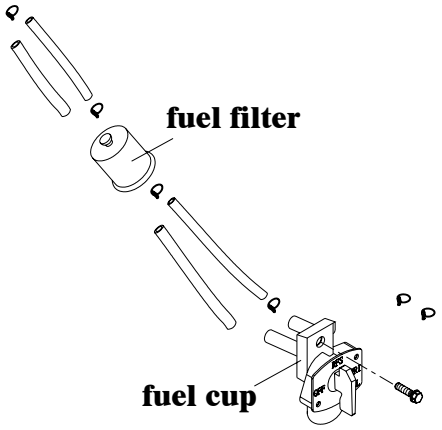
(2) For safety reason, we suggest the maintenance should be done at local service center.

(3) If the driving condition is very abominable such as rainy, dust zone or heavy load... that we suggest operating maintenance more frequency.

CHECK AND ADJUST

FUEL FILTER

- The filter is located underneath the carburetor.
- Check the fuel pipe. If the tube has any damage then change it.

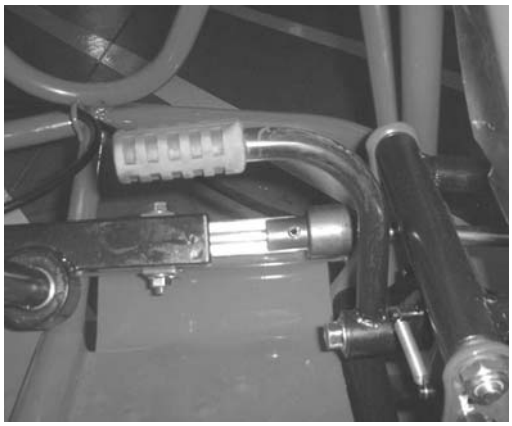


WARNNING

∗ **Smoking prohibited**

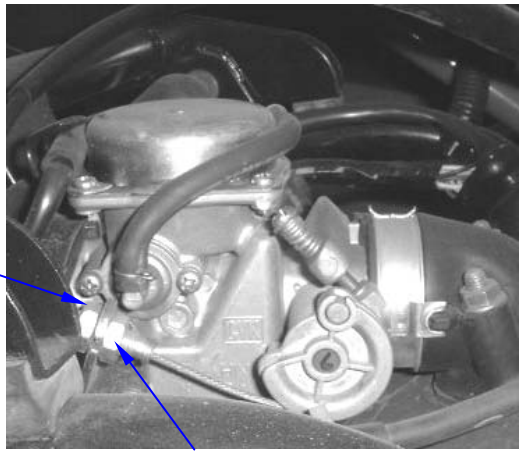
THROTTLE LEVER PLAY

- Check the throttle lever operating whether is smoothly.
- Check the throttle lever play whether is normal.



The main adjusting nut for throttle play is on the side of carburetor.

- Loose the fixed nut and adjust the play nut to proper position.



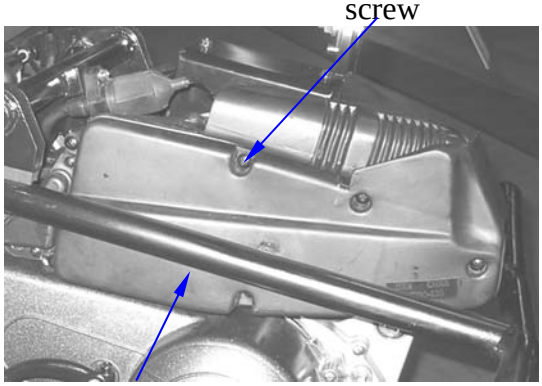
The micro-adjusting nut for the throttle play is under the throttle grip.

- Removing the prevention dust cover of throttle cable, loose the fixed nut and adjust the play nut to proper position.

CHECK AND ADJUST

AIR CLEANER

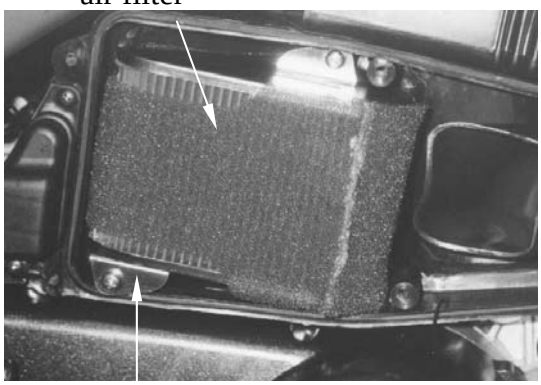
- Take-off the tapping screws of air cleaner cover and remove the cover.
- Take-off two screws of air filter.
- Check the filter whether is dirty or damaged. If it‘s dirty or damaged then clean it or change a new one.



air cleaner cover

∗ The material of filter is paper with sponge, thus don‘t use compression air to clean the filter.

air filter



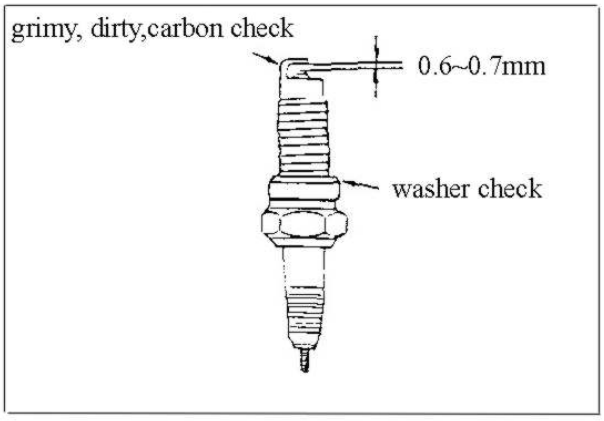
screw

Check period：

If the vehicle often driving at the rainy or abominable surroundings, please check the filter more frequently.

SPARK PLUG

- Remove the spark plug cap.
- If the spark plug grimy or with carbon residue then using the copper brush to clean it.



Spark plug specification
C7HSA：without resistance
CR7HSA：with resistance

Check the gap of spark plug
Gap：0.6~0.7 mm

• Using the standard plug socket spanner to install the spark plug.

CHECK AND ADJUST

VALVE ADJUSTING

∗ When you check or adjust the valve, do it at the low engine temperature (about 35°C)

- Remove cylinder head cover.
- Rotate the cooling fan and keep the gear mark of camshaft aim at the TDC position and the ACG flywheel “T” mark aim at the mark of crankcase.

∗ When you adjusting the valve, don’t invert the crankshaft, otherwise can not adjust the exhaust valve.

VALVE GAP CHECK & ADJUST

Valve gap： IN. ：0.06 mm
EX. ：0.10 mm

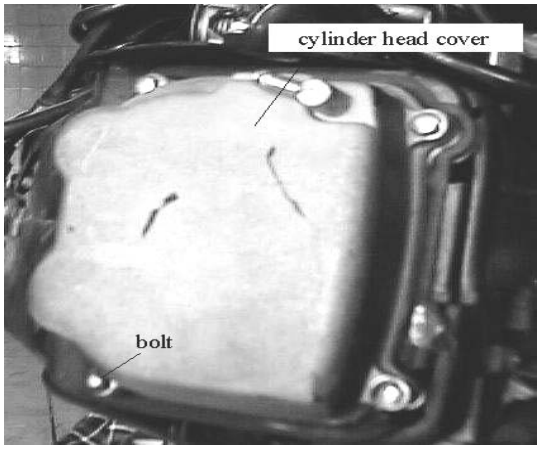
- Loose the fixed nut and rotating the adjusting nut reach to the proper gap.
- Screw the fixing nut and check the gap again.
- Using the valve gap adjuster to adjust the valve gap.

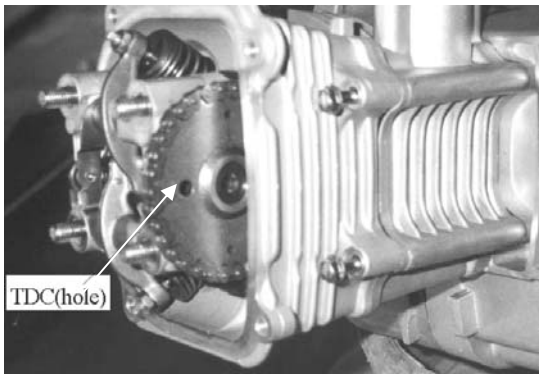
ADJUSTING IDLE SPEED

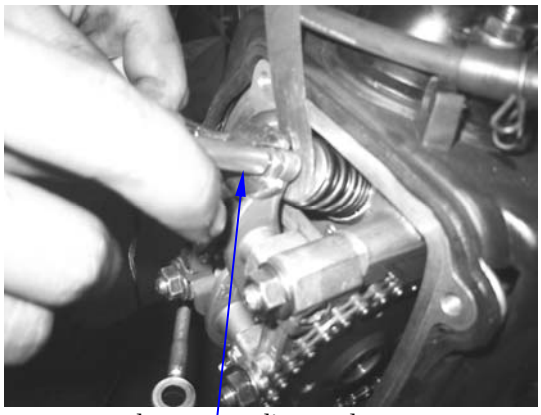
∗ Engine idle speed adjustment have to do it when the engine is warm.

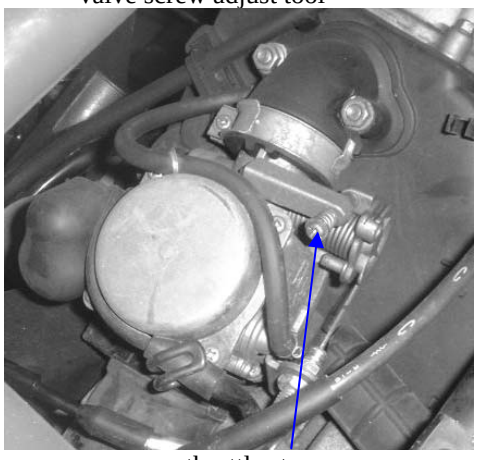
- Starting the engine and connect with the rpm meter.
- Adjust the idle speed adjust screw reach to the normal idle speed.

The idle speed is 1700±100 rpm.
If the idle speed is unstable or slightly pull the throttle the engine does not go smoothly then adjust the throttle valve stopper screw.






valve screw adjust tool

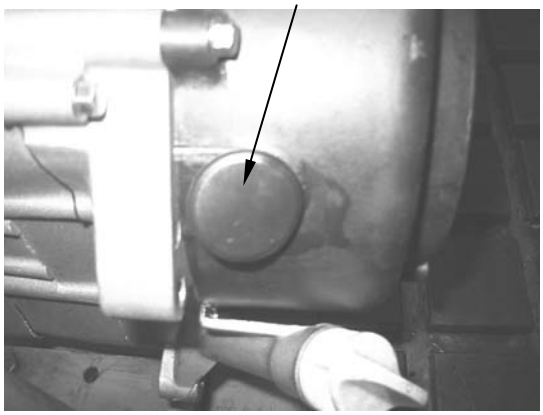

throttle stopper screw

CHECK AND ADJUST

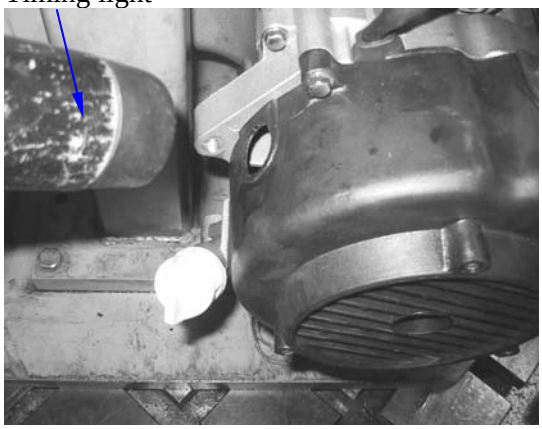
IGNITION TIMING

The ignition system of this vehicle is controlled by C.D.I unit, thus don‘t need to adjust anything. If the ignition timing isn’t correct then checking the ignition system whether normally.

- Removing the L side cover.
- Removing the rubber bung.
- Using the timing light to check the ignition timing. The mark of crankcase aim at the “F” mark of flywheel, when the engine speed running at idle.



Timing light



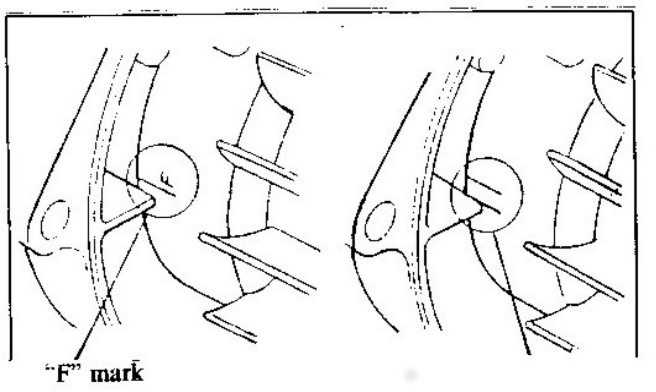
IGNITION PERIOD

- Using the timing light to check the ignition period.
- Keep the engine speed about 5000rpm, if the flywheel mark aim at the enter angle mark of crankcase then the ignition period is correct.

CYLINDER PRESSURE

- Remove the spark plug.
- Install the pressure gauge.
- Open the throttle and press the electric start button.

The normal cylinder pressure is about 128kg/cm^2. (570 rpm)



If the cylinder pressure is too low then check the following items：

- Valve leakage?
- Valve gap is too tie?
- Cylinder head gasket is damage?
- Piston ring wear-out?
- Piston, cylinder wear-out?

If the cylinder pressure is too high then check the combustion chamber and the top face of piston whether with too much carbon residue.

CHECK AND ADJUST
GEAR OIL

∗ When you will check the quantity of gear oil, the main stand have to rise at the ground (flat) level.

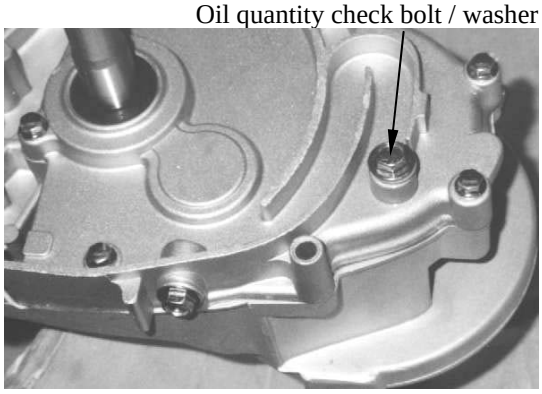
- Stop the engine and removing the quantity check bolt.
  If the oil level is around the bottom of bolt hole, then the gear oil quantity is enough.

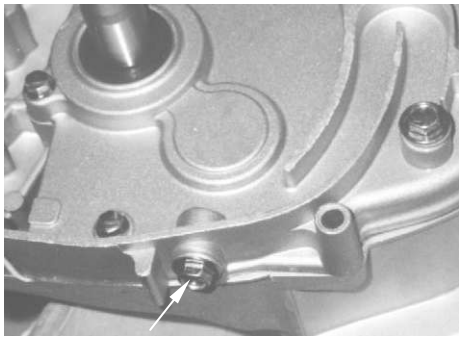
Refill the gear oil if it too less.
The standard gear oil is SAE 85W/140

- Install the quantity check bolt.

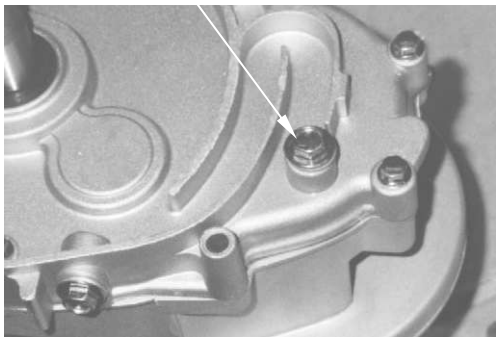
∗ Confirm the washer of the bolt whether damage.

Oil quantity check bolt / washer





oil release bolt / washer
oil check hole



Chang the gear oil：

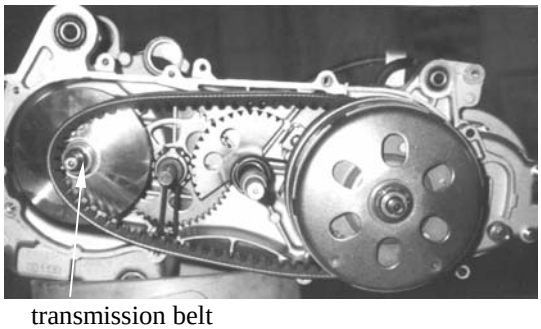
- Take-off the quantity check bolt.
- Remove the oil-release bolt and release the oil.
- Install the oil-release bolt.

∗ Confirm the washer of the bolt whether damaged.

Gear oil quantity：

disassemble：350 c.c.
change：300 c.c.

- Check all parts whether leaking, after assembly.



transmission belt

TRANSMISSION V-BELT

- Remove the L crankcase cover.
- Check the belt whether wear-out or chapping.

If the belt is damage then change it.

CHECK AND ADJUST

BRAKE SYSTEM

Front brake

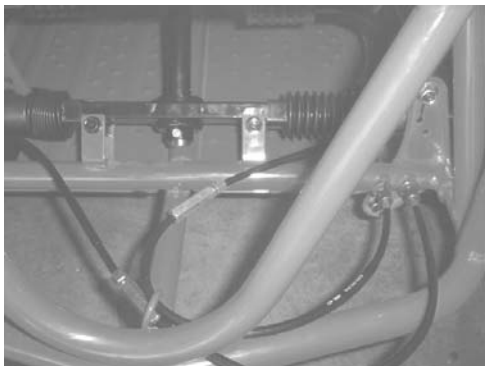
- Check the brake pads

If the brake pad has any dint or wearing very serious then change it.

- Check the quantity of brake oil

Make the steering straightly, check the brake fluid whether keep between the upper and lower level.

- Refill recommended DOT-3 brake oil when necessary.



Rear brake

- Follow the front brake procedure to check the brake pads, disk, and oil.
- Check the brake disk

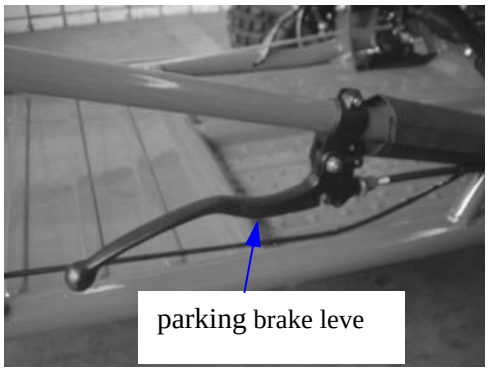
If the brake disk wear (thickness less than 3mm) or chap then change it.

Check the play of parking brake lever

normal play：10~20 mm

If the play of the rear brake over the normal value then adjust the adjusting nut of rear brake.

engine stopped then check the lining.



CHECK AND ADJUST

TIRE, RIM

- Check the tires whether have any nail, broken…etc.
- Check the tire pressure.

∗ The normal tire pressure
Front tire ：1.68 kg/cm^2（24psi）
Rear tire：1.68 kg/cm^2（24psi）

- Checking the shaft and nut of front wheel whether loosen.
- Checking the nut of rear wheel whether loosen.

STEERING

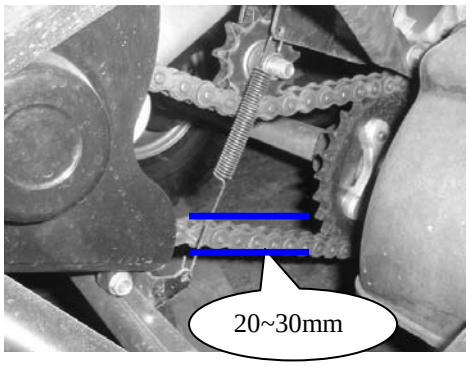
- Turning the steering from right side to left side, check the steering operating.
- Be sure the wiring and cable does not affect the steering handle.
- Check the ball bearing on bottom of steering column whether is loose.

CHECK AND ADJUST

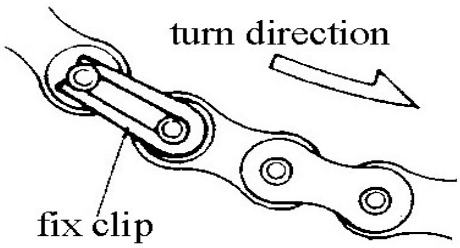
DRIVE CHAIN

Check the drive chain condition.

- The drive chain should be check, adjust, and lubricate regularly.
- The free play of the drive chain should be between 20~30mm up and down.



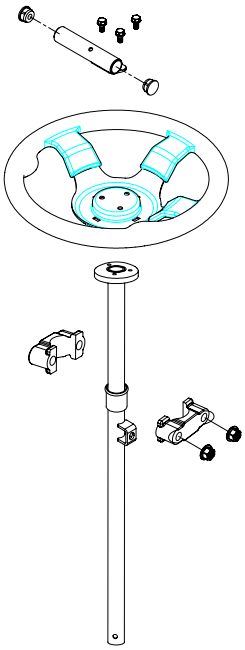
- When install the chain clip, beware the clip direction.



STEERING WHEEL, MUFFLER

Information for preparation

- Don‘t enforce to remove the cover parts of the GK-125, otherwise will cause the connecting nail of cover parts broken.
- Please according to the operating instruction when assembling the cables and wires



Remove cover parts of the GK-125

Steering Wheel:

- Taking off 3 hex washer face bolt
- Disconnect main switch wire and neutral indicator wire.

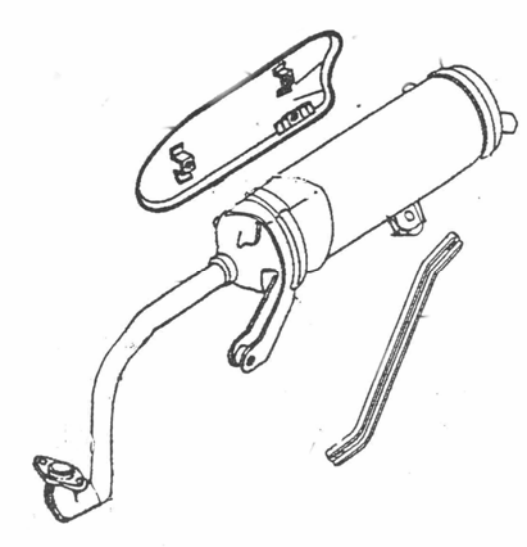
Note: When assembling the above parts that follow the opposite sequence of disassembling.

Attention:
∗ When assembling the above parts, please confirm the connecting status of join section.

Note: When you assembling the above parts that follow the opposite sequence of disassembling.

STEERING WHEEL, MUFFLER

Muffler:



Locking Torque:
Muffler fixed bolt：3.5 kg-m
Muffler connect nut：1.2 kg-m

Trouble Diagnose:
Exhaust sound level is too high

- Muffler broken
- Muffler leakage

Power isn‘t enough

- Muffler leakage

- Muffler blocking
- Muffler with dent

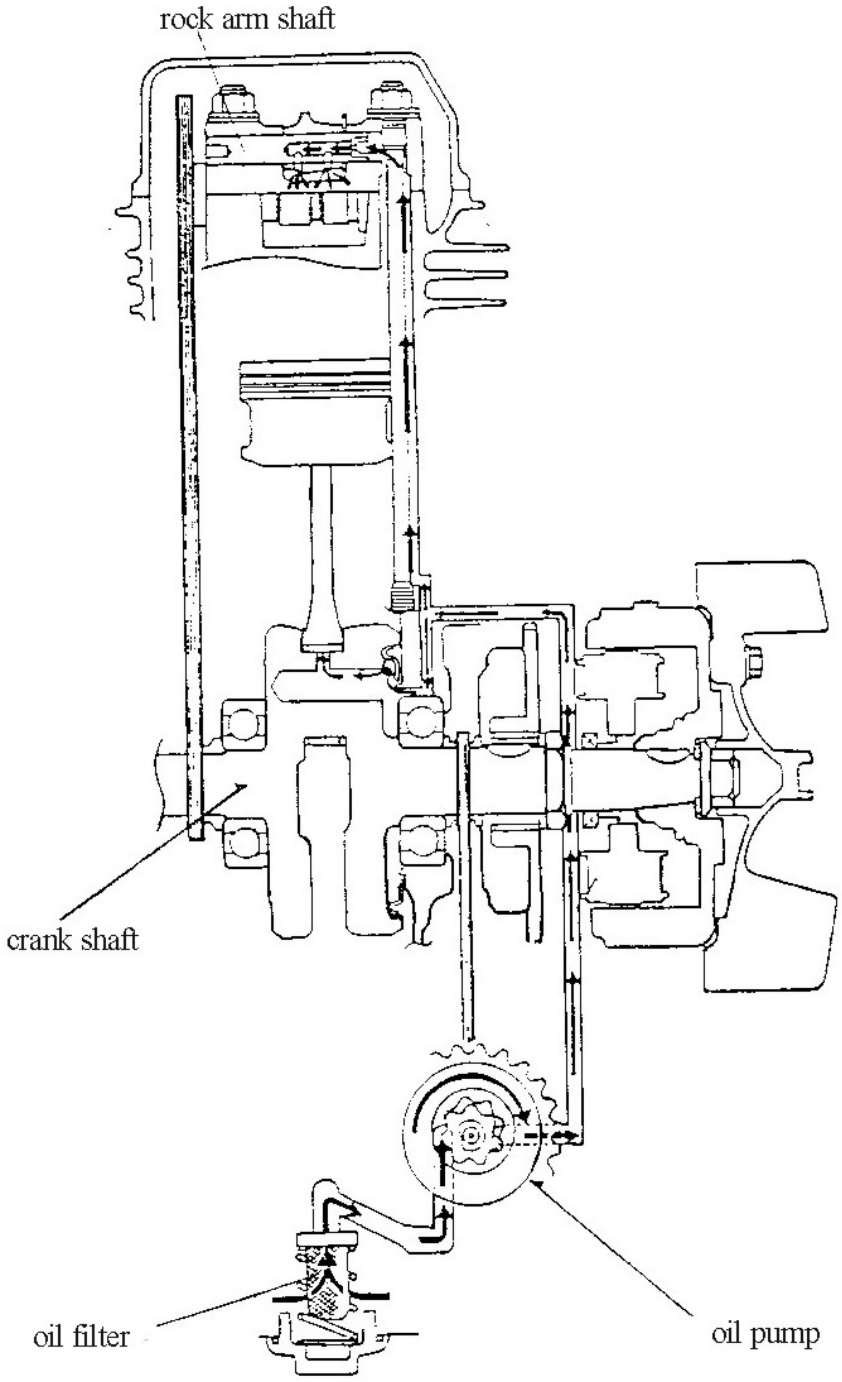
Remove the muffler:

- Taking-off the nuts that connect to the cylinder.
- Taking-off the bolt that fix to the frame.
- Remove the muffler and gasket.

Note: When you assembling the muffler, don't forget to put gasket on muffler first.
Replace a new gasket after dismounting the muffler.

MEMO

LUBRICANT SYSTEM



TROUBLE DIAGNOSE

Oil quantity reduced

- Normal consumption
- Oil leaking
- Piston ring wear-out or installed wrong
- Rubber seal of valve wear-out

Engine burn

- No oil pressure or pressure too low
- Oil thoroughfare blocking
- Oil type isn‘t correct

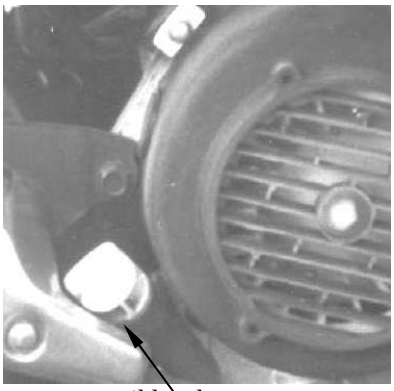
LUBRICANT SYSTEM

Information for Operation

ENGINE OIL & FILTER

Oil quantity

∗ When you check the oil quantity, the vehicle have to stand on flat ground.
∗ Starting the engine about 2~3 min.. then stop it. After 2~3 min. check the oil quantity.

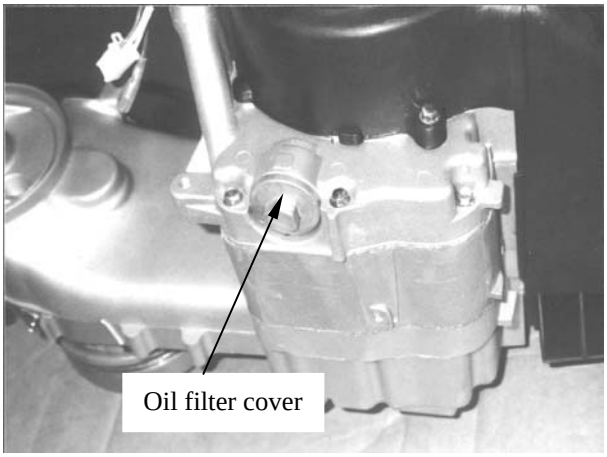

oil level gauge

- Remove the oil level gauge and check

If the oil level under the lower limit then add the standard oil to upper limit of gauge.

Oil Exchange

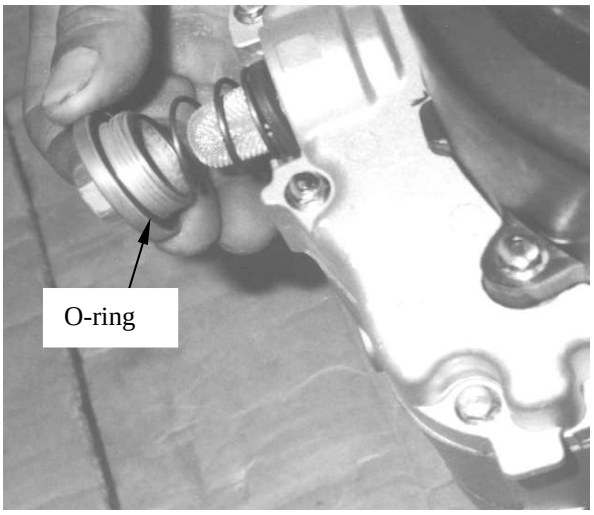
∗ The motor oil will flow more easily if the engine is warm.


Oil filter cover

- The oil release nut is under R-crank case cover. Take-off the oil-filter cover can have better release of the oil.

- Check the O-ring of oil filter cover. Replace new ring if it's damaged.
- After cleaning the filter, then mounting the oil filter, filter spring and cover.

Locking torque: 1.5 kg-m


O-ring

- Adding the proper oil quantity:

engine disassembly：0.9L.
change：0.75L

- Check the engine oil whether leaking.

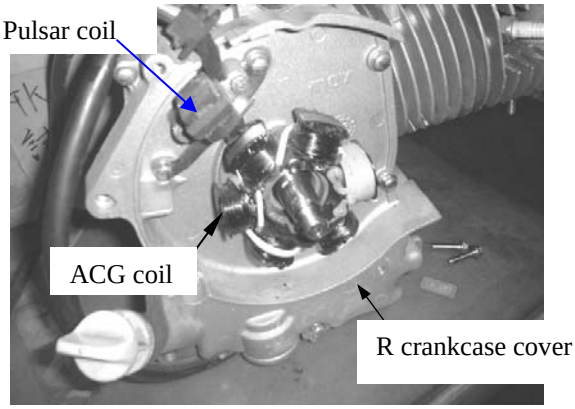
If not then starting the engine at idle speed for few minutes and checking the oil level again.

LUBRICANT SYSTEM

OIL PUMP

Remove

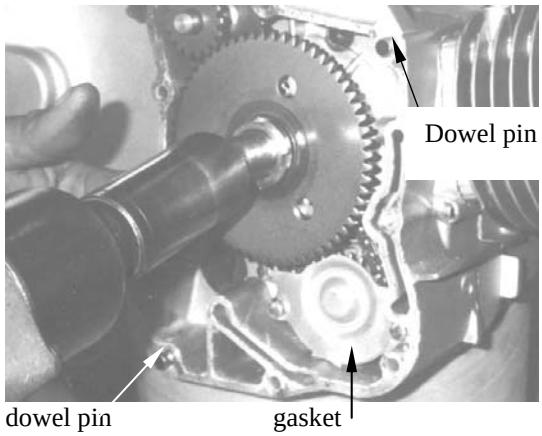
- Remove the fan and ACG.
- Take-off 5 bolts on R. crankcase cover and remove it.



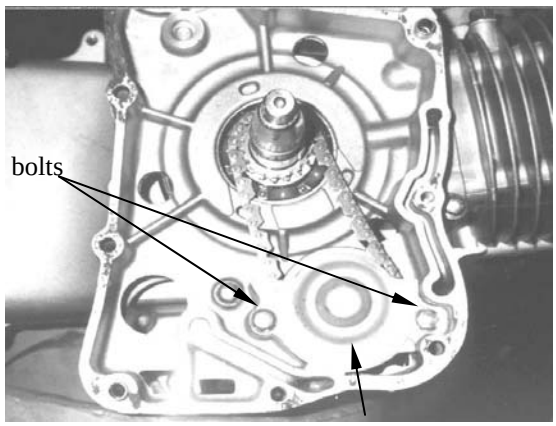
- Remove the gasket and the dowel pin
- Remove the starting clutch gear and starter clutch
  TLCT125-04

  Use special tool to loose the starter clutch lock nut.

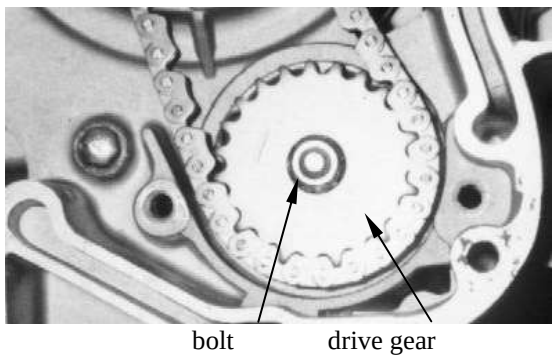
Attention the lock nut is the thread The lock nut is the left thread type.



- Take-off 2 bolts of the oil separator and remove it.

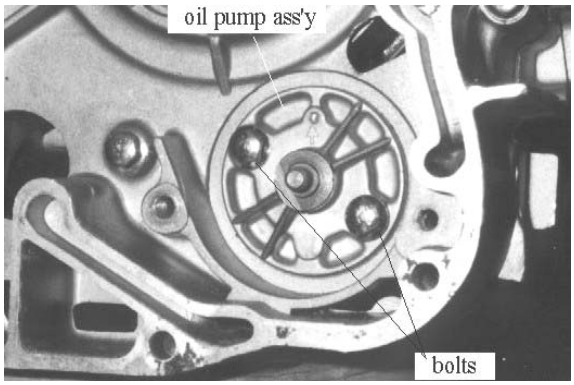


- Take-off the nut on pump drive gear.
- Remove the pump drive gear and chain.



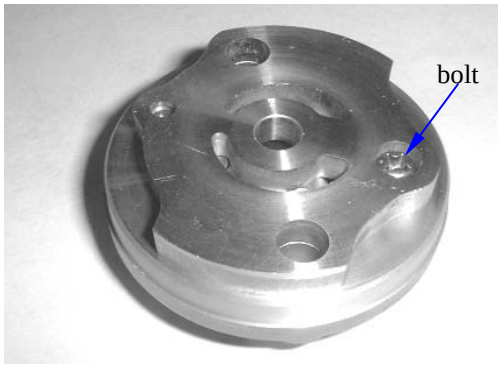
LUBRICANT SYSTEM

- Take-off the fixed bolts on oil pump and remove the oil pump ass'y.



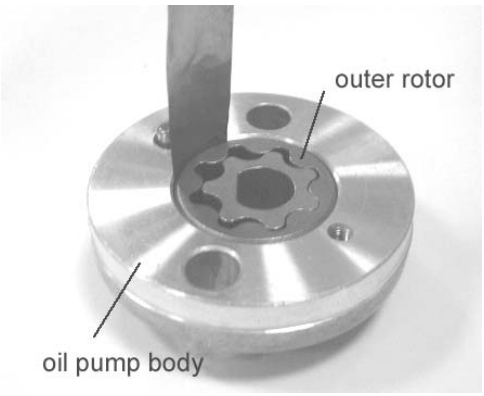
Disassembling:

- Take-off the screw on oil pump and disassembling the oil pump.

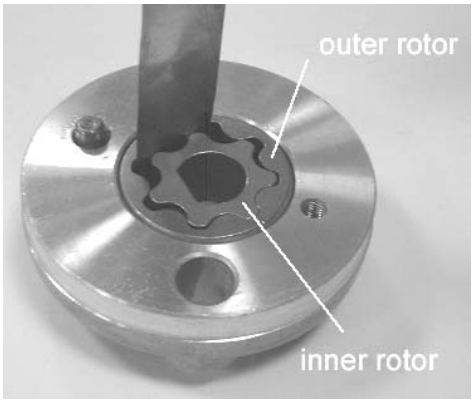


Check:

- Check the gap between the pump body and outer rotor.
  The gap limit is 0.10 mm.

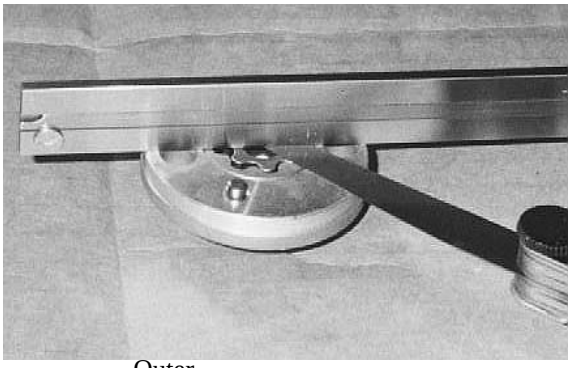


- Check the gap between inner and outer rotor.
  The gap limit is 0.06 mm.



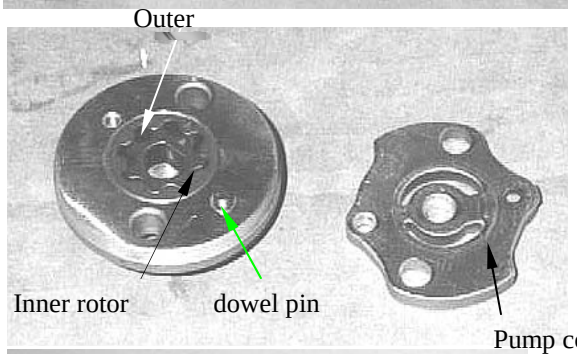
LUBRICANT SYSTEM

- Check the gap between the top face of rotor and the pump body
  The gap limit is 0.2 mm



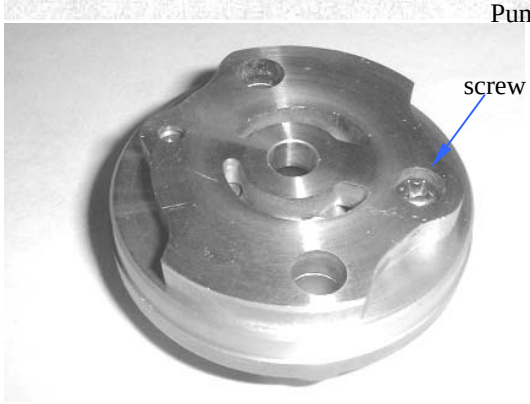
Assembling:

- Mounting the inner and outer rotor, then install the pump shaft.



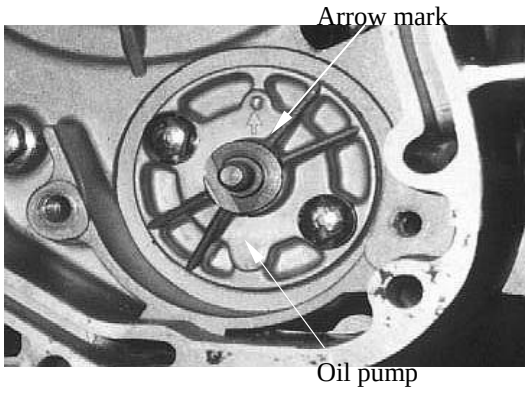
∗ When install the pump shaft, beware the angle position match with the inner rotor.

- Install the dowel pin.
- Siting the dowel pin and the pump cover.



- Locking the screw.

After installed, turning the pump slightly and confirm the function is normal.



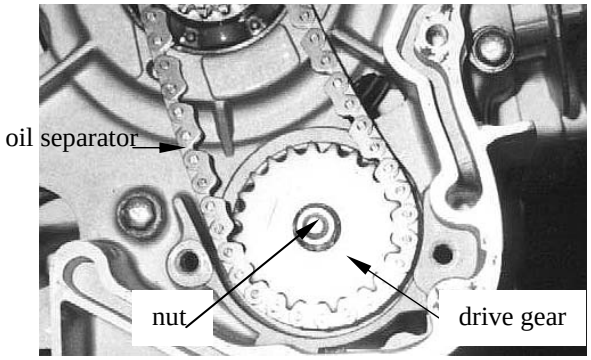
Install:

- Install the pump back to crankcase

∗ Installing the pump, the arrow mark have to be toward upper position.
∗ Add the standard oil in pump then

LUBRICANT SYSTEM

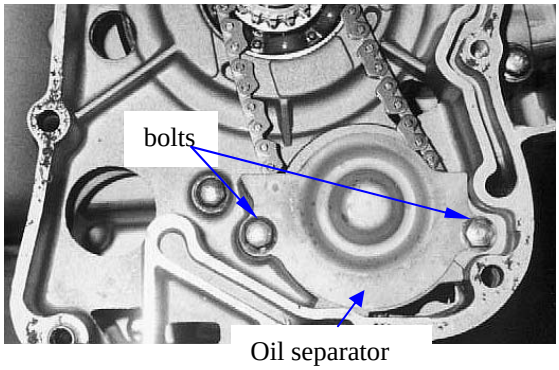
- Install the pump then tie-up the bolts.



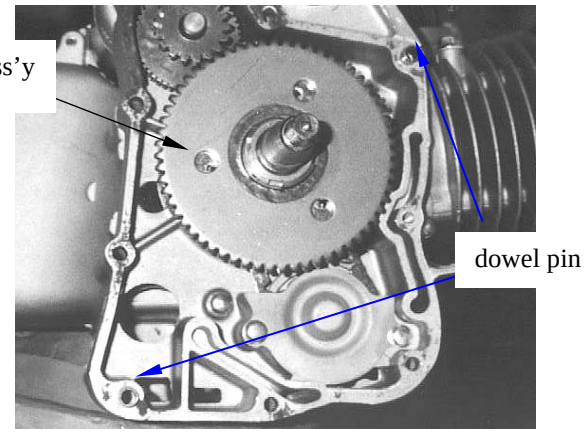
- The pump gear has to fit into the shaft, then install the gear and chain.
- Install the nut and tie-up.

Locking torque: 1.0 kg-m

- Mounting the oil separator and tie-up the bolts.

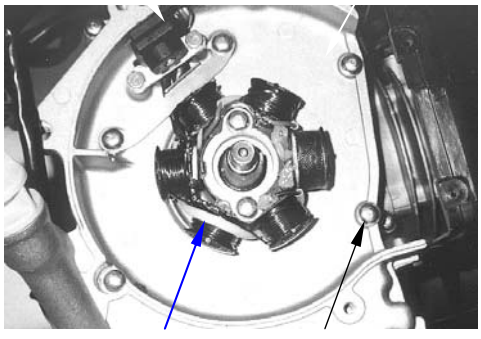


- Mounting the starting clutch gear and starter clutch.
- Mounting the gasket and dowel pins.
- Use special tool to fix the starter clutch lock nut.
  TLCT125-04



- Mounting the R crankcase cover with 5 fixed bolts.
- Mounting the pulsar coil and ACG.
- Tie-up 5 bolts on R crankcase cover.

∗ Locking the bolt have to follow the cross-wise direction



FUEL SYSTEM

TROUBLE DIAGNOSE

Start-up function abnormal

- No spark of spark plug
- Compression pressure too low
- No fuel in carburetor
  - Air stock inside air cleaner
  - Stock of fuel pipe
  - Defect of rubber film in carburetor
  - Bad adjustment of fuel level

Too much fuel inside combustion chamber

- Air stock inside air cleaner
- Too much fuel cause over flow
- By passed air sock into fuel system
- Degeneration of gasoline
- Starter plunger defect
- Stock of idle system or chock system

Too thick of Fuel/Air mixture

- Starter plunger defect
- Float needle valve abnormal
- Too much fuel cause over flow
- Stock of airflow inside carburetor
- Stock of air cleaner
- Fuel level too high

Muffler make explore noise when deceleration

- Too much air
- Air stop valve abnormal
- Too thin of F/A mixture at idle speed.

Ignition not continuously when accelerate

- Ignition system abnormal
- Too thin of F/A mixture

Difficult to start, Engine stops after start-up, Idle speed not stable

- Stock of fuel system
- Ignition system abnormal
- Fuel/Air mixture too thin or thick
- Degeneration of gasoline
- By passed air sock into fuel system
- Bad adjustment of idle speed
- Bad adjustment of fuel quantity
- Fuel or airflow stock of idle speed
- Too much fuel cause over flow
- Stock of starter plunger system
- Bad adjustment of fuel level

Too thin of Fuel/Air mixture

- Stock of nozzles inside carburetor
- Stock of float valve
- Fuel level too low
- Stock of fuel system
- By passed air sock into fuel system
- Vacuum film abnormal
- Throttle valve abnormal

FUEL SYSTEM

CARBURETOR

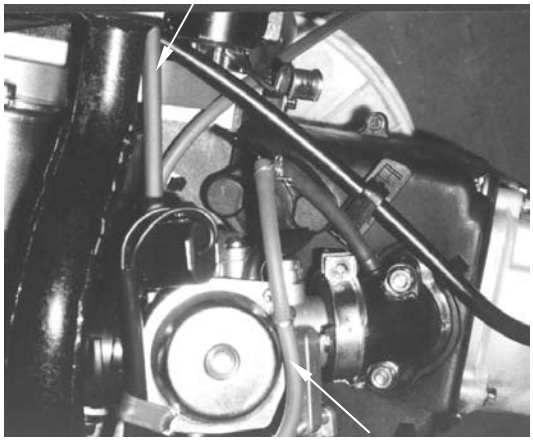
Removing

- Remove the R/L side, body cover, center cover, rear carrier, seat, and helmet box
- Remove the auto-plunger wire from carburetor.

Auto-plunger wire

- Loose the fuel releasing screw of the carburetor and release the fuel in float chamber
- Remove the fuel tube and vacuum (-) pressure tube.

fuel tube vacuum tube



vacuum tube

- Loose the adjusting and fixed nut of throttle cable.
- Removing the throttle cable.
- Loose the clamp on intake manifold and remove the carburetor.

AUTO. PLUNGER STARTER

Check function:

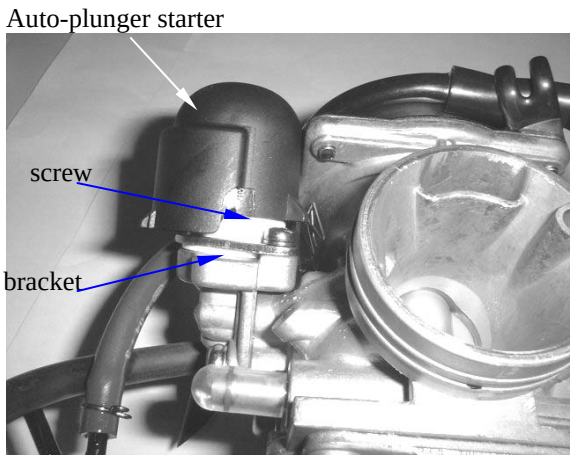
- After the engine stop after 10 min. then check resistance on both terminals.

If there is no resistance between terminals then change a new auto-plunger.

FUEL SYSTEM

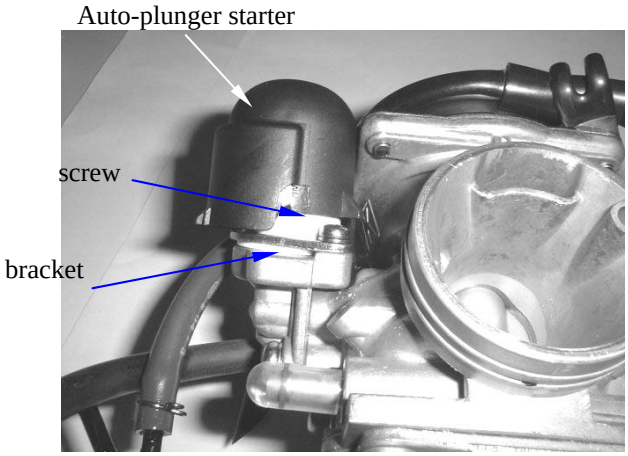
Disassembling:

- Remove 1 screw and mounting bracket.
- Remove the auto. plunger starter form carburetor



Check:

- Check the auto-plunger starter needle and valve whether wear-out?
- If it's damaged then change the plunger.
- The YL wire on auto-plunger starter connect with (+) terminal and the GR wire connect with the (-) terminal of battery. After about 5 min the auto-plunger starter warm-up, then the needle will go up. Otherwise, the auto-plunger is damaged and need to change the plunger.



Installation

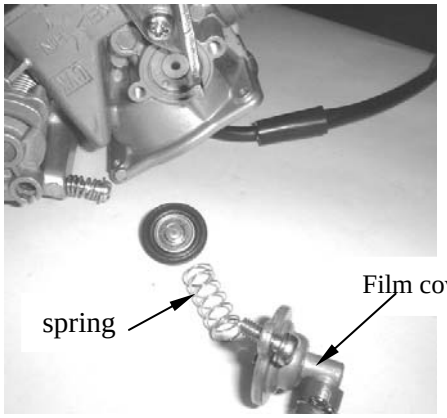
- Put the auto-plunger starter into carburetor
- Put the fixed plate firmly on the dint and locking screw.

FUEL SYSTEM

AIR VALVE

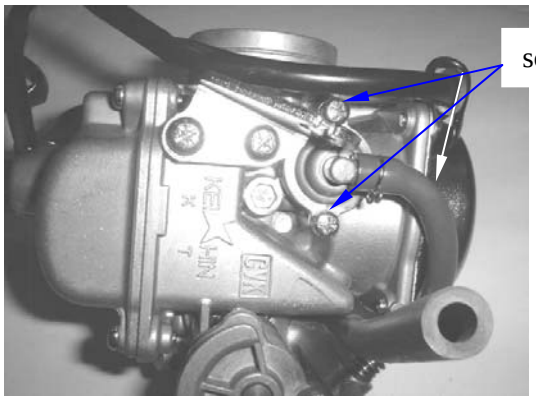
Disassembling:

- Remove the vacuum (-) pressure tube.
- Take-off 2 screws and remove the (-) pressure film cover, spring and film.



Assembling:

- Mounting the film into carburetor.
- Put the spring，cover back then locking 2 screws.



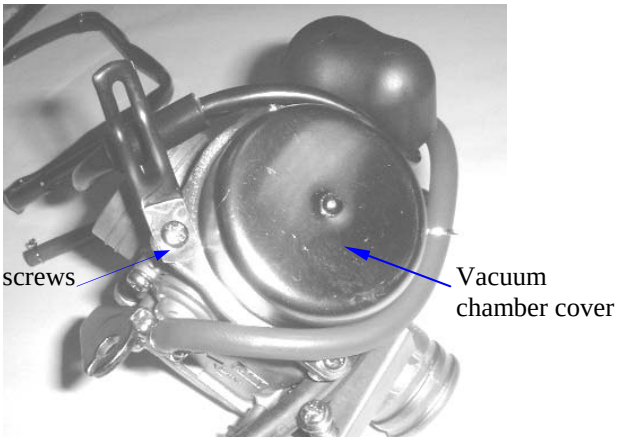
Attention

∗ When mounting the film, the dint of the film have to aim at correct position of carburetor

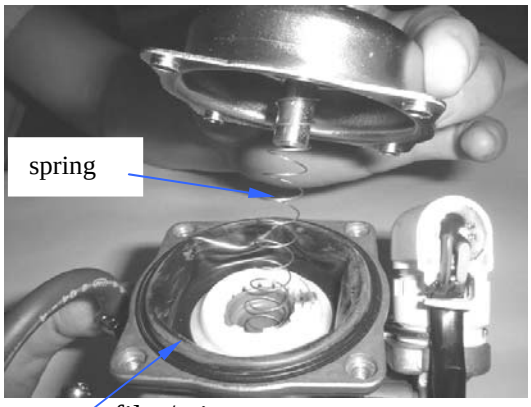
VACUUM PRESURE CHAMBER

Removing:

- Take-off 2 screws and remove the cover.



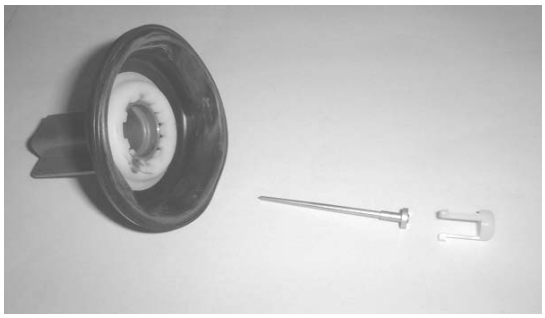
- Remove the vacuum film with piston.



FUEL SYSTEM

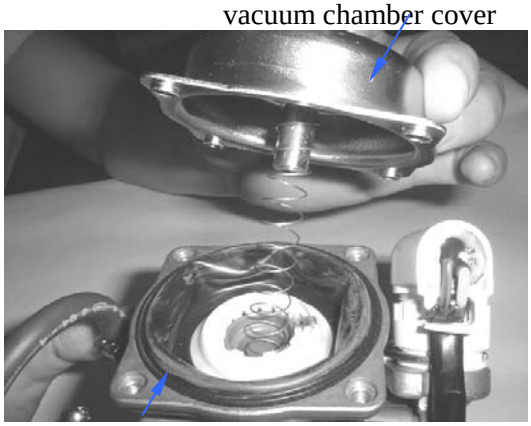
- Push the fixed clamp and turn L side to take-out the clamp.
- Remove the spring and needle

∗ Beware not to damage the vacuum film.



Check:

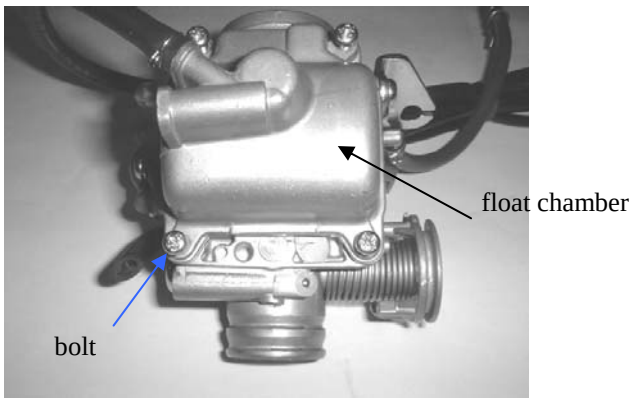
- Check the needle whether wears
- Check the piston whether damaged
- Check the film whether chapped or damaged



Assembling:

- Put the vacuum film and piston into the carburetor body.
- Keep the piston of film at top Position (throttle full open position)
- The upheaval of film aim at the dint of carburetor body
- Mounting the cover and locking the screws

∗ Be careful not to damage the film.
∗ Hold the piston at full open position when locking the screws of the cover,



FLOAT CHAMBER

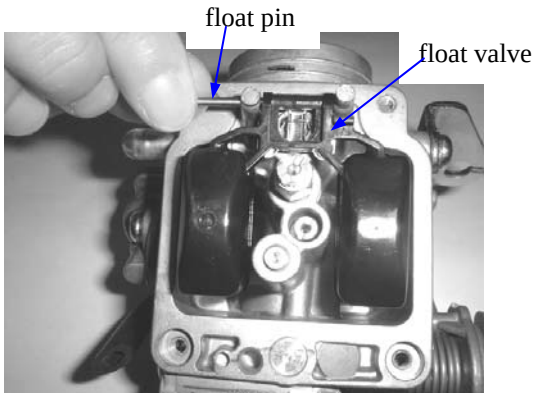
Disassembling:

- Loose 4 screws on the float chamber cover.
- Remove the float pin, float, and valve.

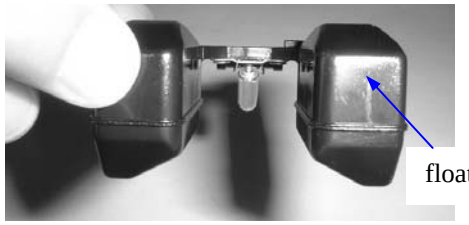
FUEL SYSTEM

Check:

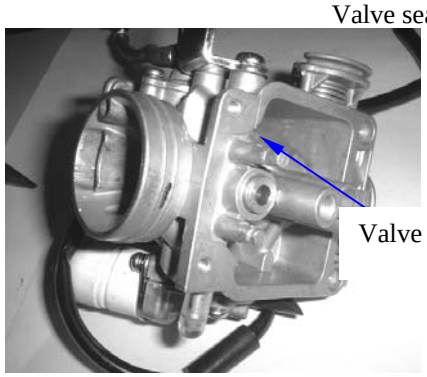
- Check the float valve and valve set whether damage or blocking
- Check the surface of float needle and valve seat whether grimy or wear-out.



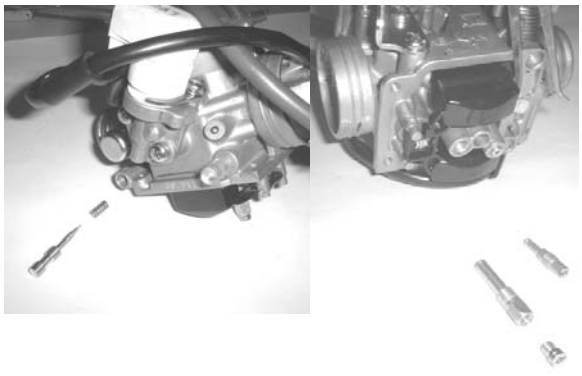
∗ If the float valve or valve seat is grimy or wear-out that will cause the fuel level higher and leakage.



- Remove the main jet, main jet seat, nozzle, pilot jet and the fuel adjusting screw



∗ Beware not to damage the jet and adjusting screw.
∗ Before remove the fuel adjusting screw, remember mow many turns into the end.
∗ To avoid the damage of carburetor, do not force to lock the fuel adjusting screw.

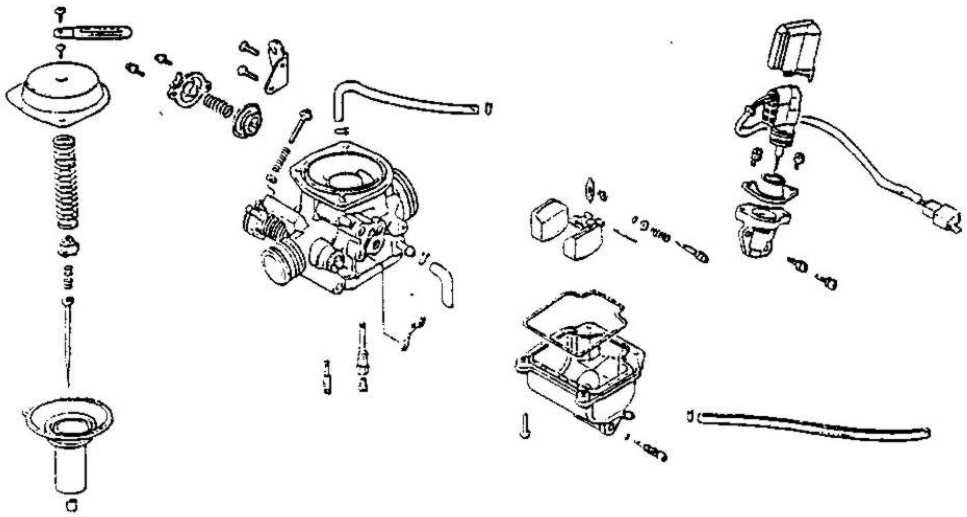


- Use clean fuel to wash all parts.
- After grimy material cleaned, use compression air to clean each tunnel.

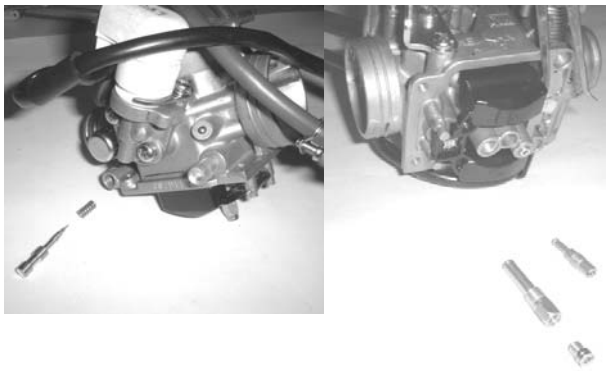
∗ The vacuum (-) pressure chamber and air valve can be cleaned at the same time

FUEL SYSTEM

Assembling Drawing



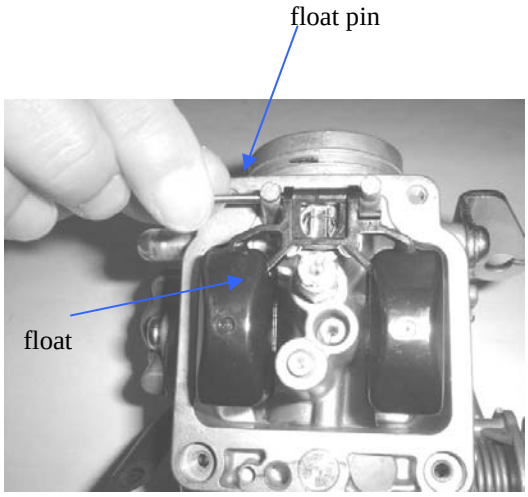
- Install the pilot jet, main jet seat, main jet and fuel adjusting screw.



∗ Before remove the fuel adjusting screw, remember turns of setup into the end position.

The normal setup is: 3 1/8±3/4 turns out

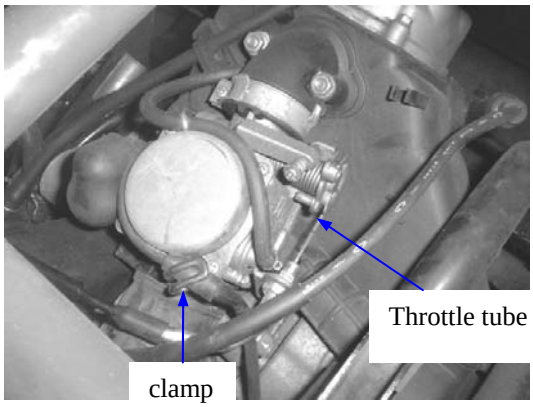
- Install the float, float valve and float pin



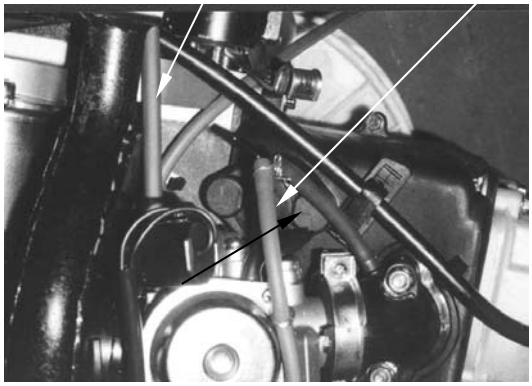
FUEL SYSTEM

Mounting the carburetor

- When install the carburetor, the embossment of carburetor have to fit into the correct position of intake manifold.
- Locking the screws of 2 clamps.
- Mounting the throttle cable on the control wheel.



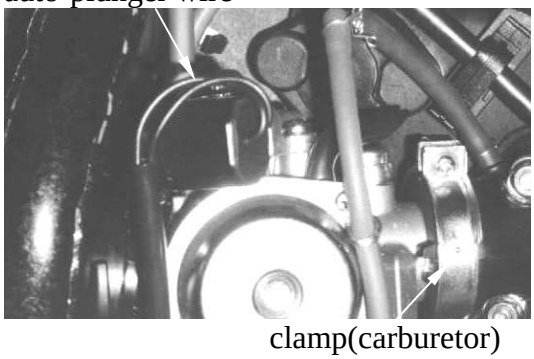
- Install the vacuum pressure pipe and fuel hose.



- Connect with the auto-plunger wire.
- Adjust the position of throttle cable.
- Adjust the idle speed.

Setup of the fuel adjusting screw Adjust:

∗ Fuel adjusting screw was setup in the factory. It does not need to adjust the fuel screw again. Remember the setup before disassembly.
∗ Use neutral gear to adjust the carburetor



- Smoothly turn the fuel adjusting screw into the end, then return back to the standard setup.
  The normal setup is: 3 1/8±3/4 turns Out.

- After engine warm up, adjust the throttle valve adjusting screw to setup the standard idle speed.
  Idle engine rev.: 1700±100 rpm
- Slightly increase the engine speed for few times and the idle engine speed should keep the same.
- If the engine rev. is not stable, repeat above adjust procedure on fuel adjusting screw and throttle adjusting screw until the engine speed is normal.

FUEL SYSTEM

FUEL CUP

∗ Smoking prohibited

- Remove the fuel tube and vacuum tube from carburetor.

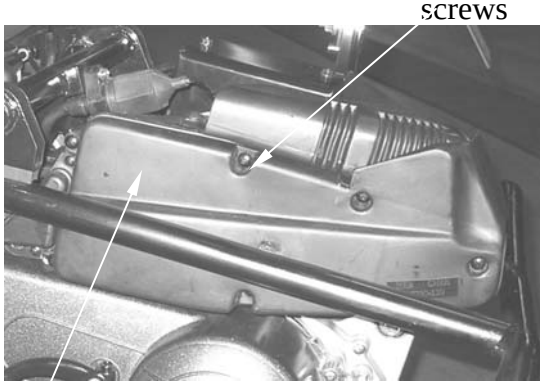
Check

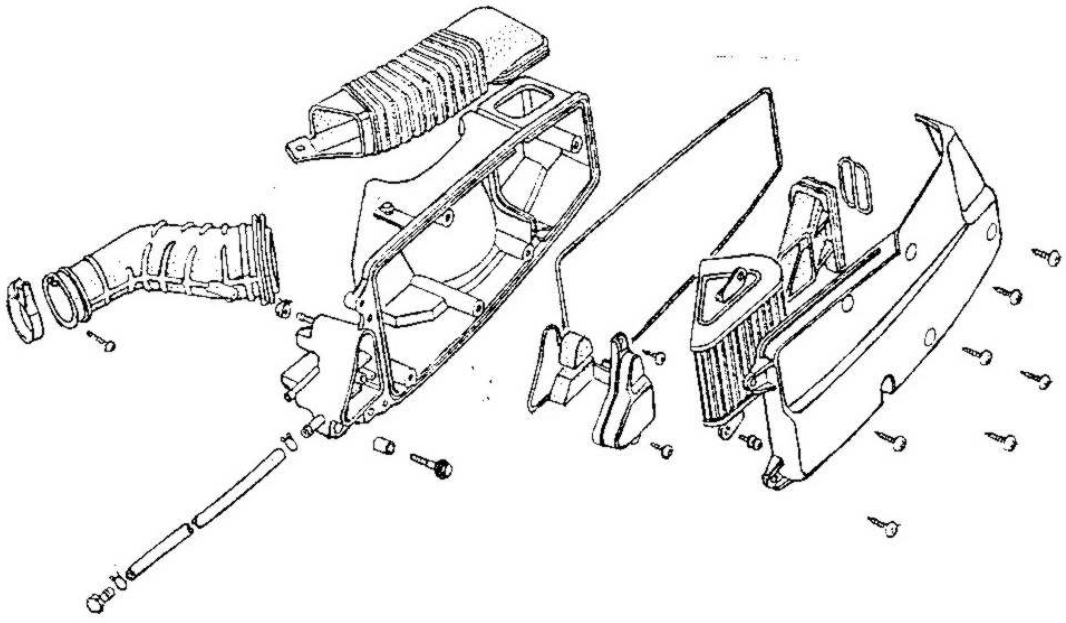
If the fuel cup have no vacuum pressure and the fuel come out then the valve film inside the fuel cup is damaged.

- Install with the reverse procedure.

AIR CLEANER ASSEMBLY

- Release the clamp screw which connect to the carburetor.
- Take-off the air hose connect to the final transmission gear box.
- Loose 3 fixed bolts under the air cleaner assembly to dismount the air cleaner.





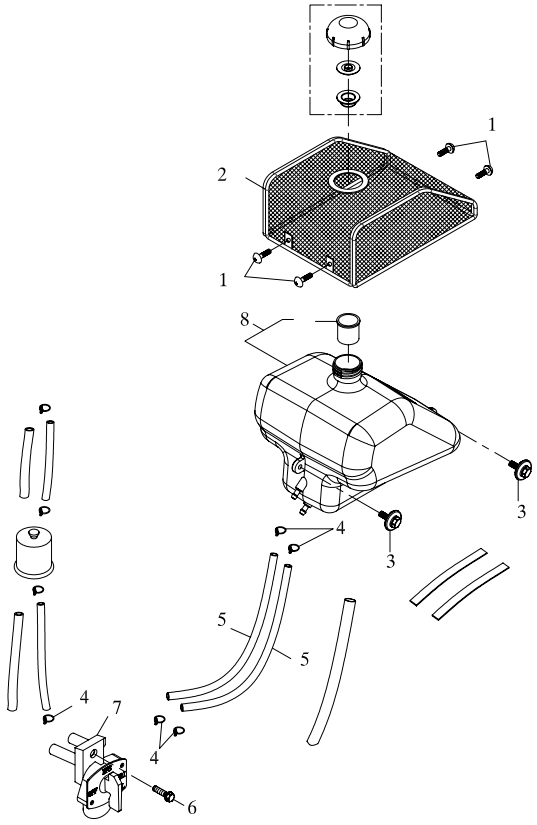
FUEL SYSTEM

Disassembly of Fuel Tank

- Disassembly of handle bar and front cover.

∗ ***WARNING:***

- No fire.
- Shall be wiped off when fuel overflowed.



	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
1	Pan phillips bolt 6*15	4	
2	Fuel tank net	1	
3	Hex bolt 6*16	2	
4	Clip	8	
5	Fuel tube	2	
6	Hex washer face bolt 6*16	1	
7	Fuel cap	1	∗ Remove the fuel tank together with fuel
8	Fuel tank comp.	1	cock!
	Assembly 8→1		● Operating with sequence in reverse of disassembly.

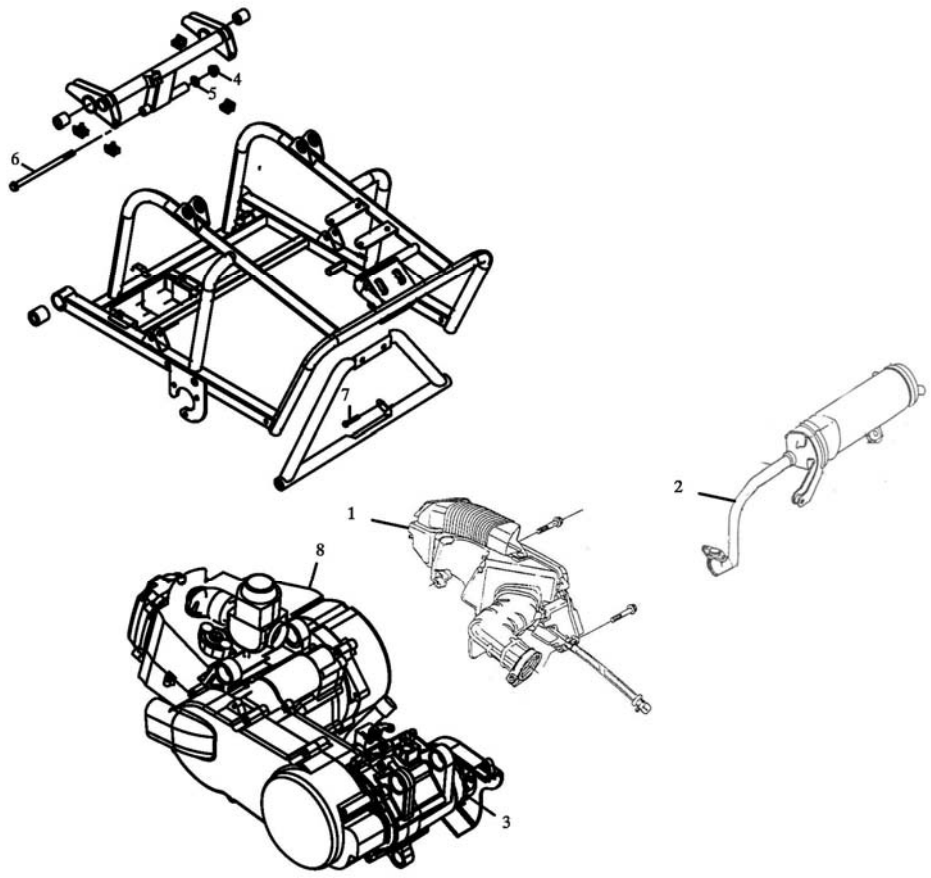
REMOVE OF ENGINE

Attention of Operation

- Operation after disassembling the engine.
  - Crank shaft case
  - Crank shaft
  - Exchange bearing of final transmission mechanisms.

Disassembly of Engine

- Disassembly of external cover of body.
- Disassembly of throttle valve and cable.

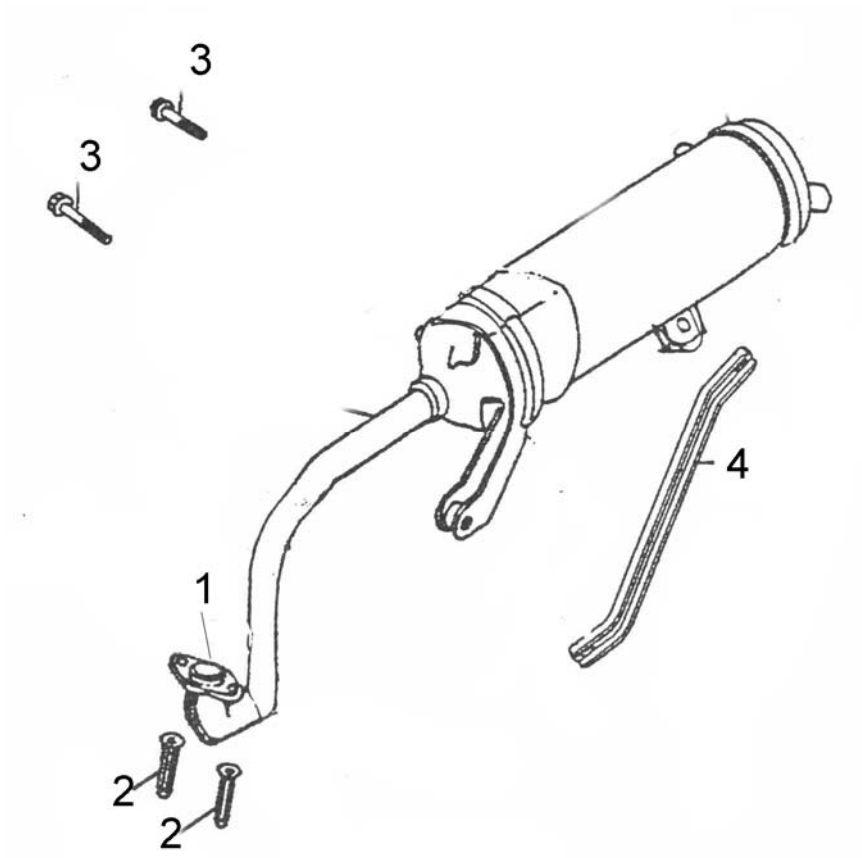


	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
1	Air Cleaner Ass'y	1	
2	Exhaust muffler	1	

3 4 5 6 7 8	Drive Sprocket Ass'y Nylon nut of engine plain washer of engine Hex washer face bolt of engine Hex washer face bolt of engine Engine	1 1 1 1 1 1	∗ ***WARNING:*** ● Actually for brace the frame, avoid body turn inside out.
	Assembly 8→1		∗ ***WARNING:*** Carry out following adjusting after installation.

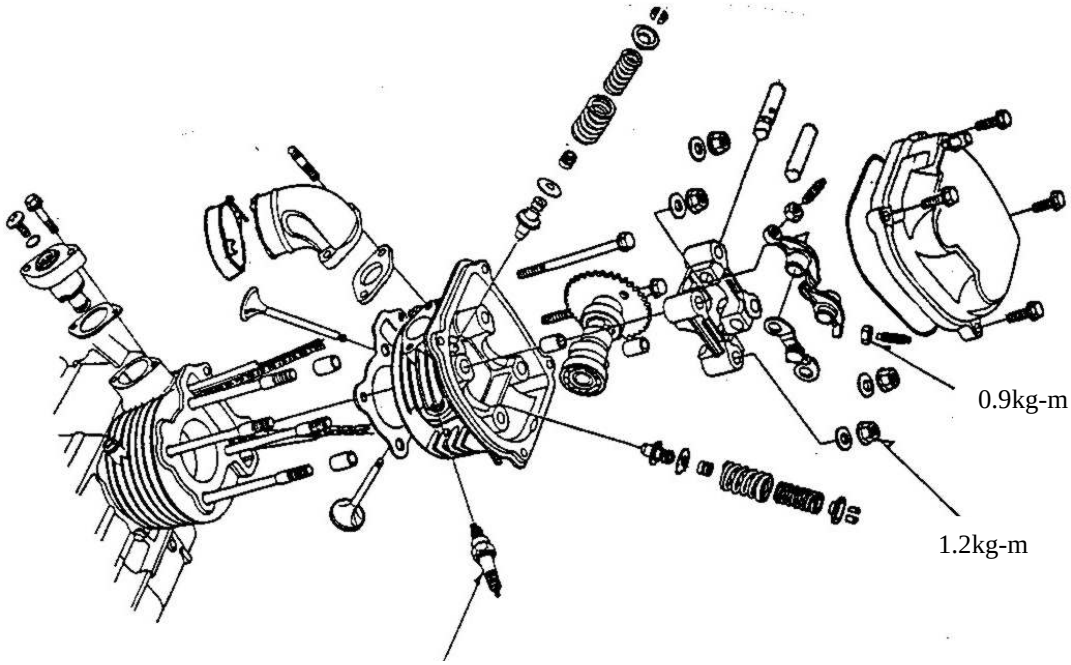
REMOVE OF ENGINE

Disassembly of Muffler



	Operation / Parts name	Q'ty	Remarks
	Disassembly		
1	Take off the engine Ass'y	1	
2	Nut cap 6mm	1	
3	Hex washer face bolt 8*32	2	
4	Exhaust bracket	1	
5	Muffler	1	
	Assembly 5→1		• Assembling with sequence in reverse of disassembly.

CYLINDER HEAD, VALVE



TROUBLE DIAGNOSE

Idle Speed not Stable

- Compression pressure too low

Compression Pressure too low

- Bad adjustment of valve tolerance
- Valves banded or burn
- Valve timing not correct
- Damage of valve spring
- Sealing of valves and seats abnormal
- Leaking of cylinder head gasket
- Bottom of cylinder head damaged
- Wrong installation of spark plug

Valve gap adjustment 0.12 mm

Compression Pressure too high

- Too much carbon-residue inside combustion chamber.

Emission with White Smoke

- Valves or valve guide attrition
- Oil seal on valve attrition

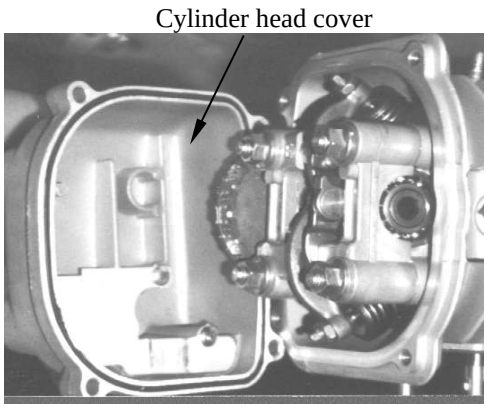
Noise

- Bad adjustment of valve gap
- Valve burn or spring damaged
- Camshaft or rock arm attrition
- Attrition of cam-chain guide comp.

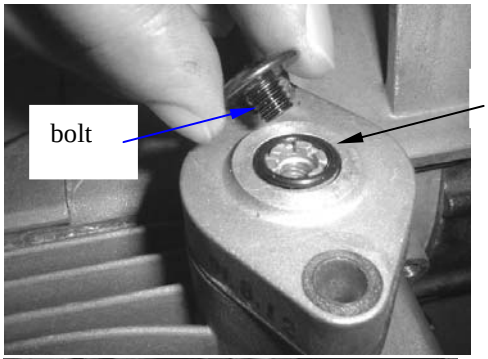
CYLINDER HEAD, VALVE

Remove the camshaft

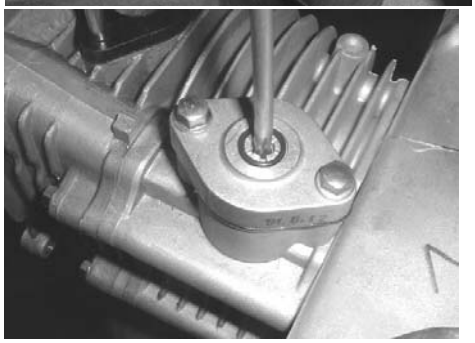
- Take-off 4 bolts on cylinder head cover and remove the head cover



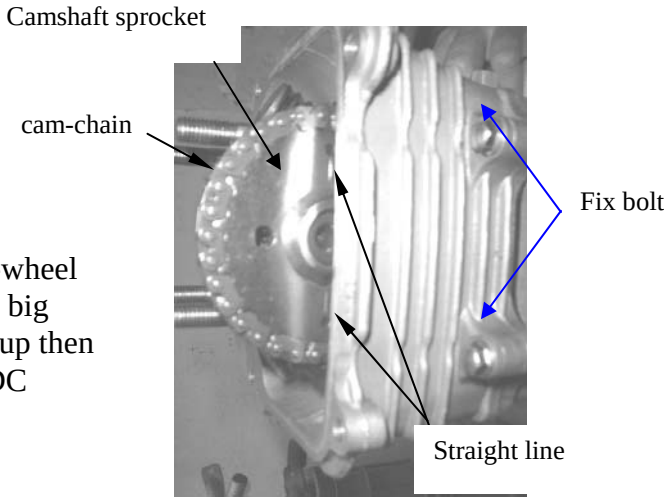
- Removing the cam-chain adjuster cover screw



- Locking the inside small screw of the cam-chain adjuster that the locking direction is clock wise



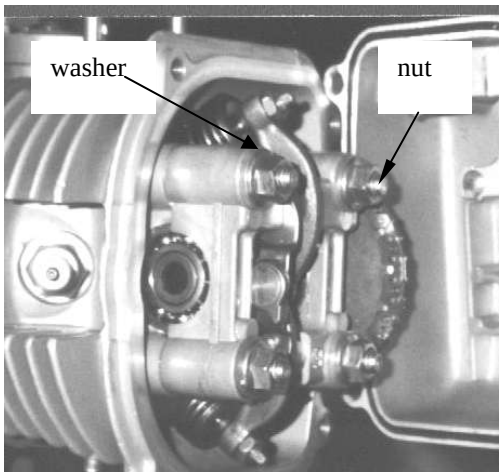
- Let the “T” mark on ACG fly-wheel aim at the crankcase sign. The big hole on camshaft gear toward up then the camshaft position is on TDC



CYLINDER HEAD, VALVE

- Remove 2 fixed bolts on cylinder head.
- Remove hex-nuts and washers on camshaft holder.

∗ Unscrew the bolts cross-wise for 2~3 times.

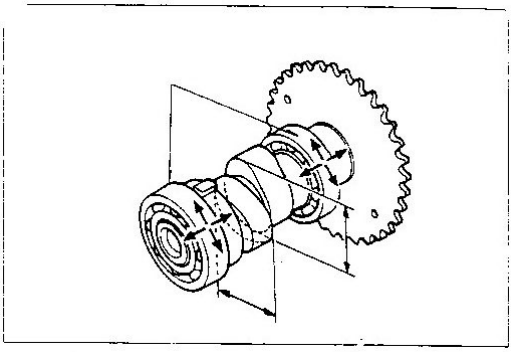


- Remove the camshaft holder and dowel pins

- Remove the cam-chain gear from cam chain then take out camshaft.

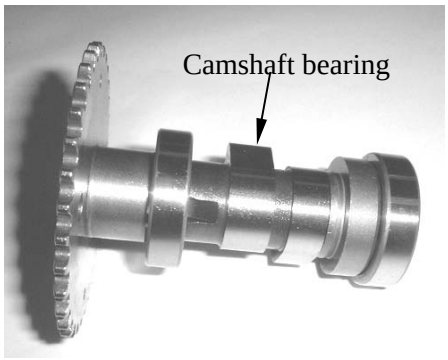
- Check the cam surface to see if it's wear out or damaged?

Working limit:
Replace if IN. cam under 25.57 mm
EX. cam under 25.41 mm



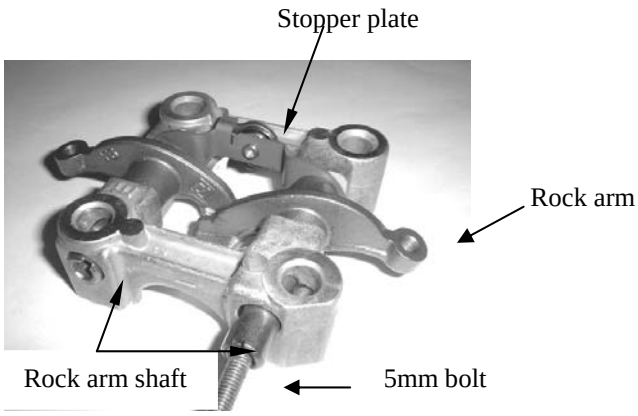
CYLINDER HEAD, VALVE

- Check the camshaft bearing to see if it's wear out or loose. If it's loose or damaged then change whole set of camshaft



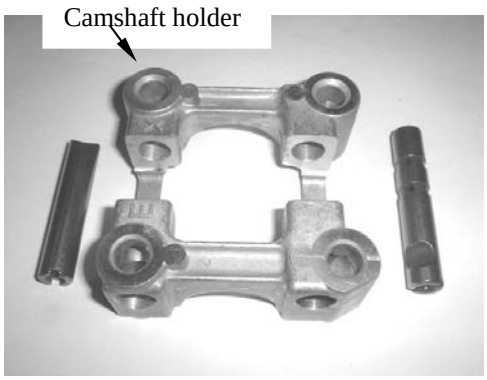
Disassembling the camshaft holder

- Using 5 mm bolt to screw in and pull out the rock arm shaft.
- Remove the stopper plate and rock arms.



- Check the camshaft holder, rock arms and rock arm shafts.

∗ If the sliding face of rock arm wear out then check the cam surface of the cam shaft



- Check the inside diameter of camshaft holder on rock arm activity part.

Replace above 10.10 mm

- Check the inside diameter of rock arm

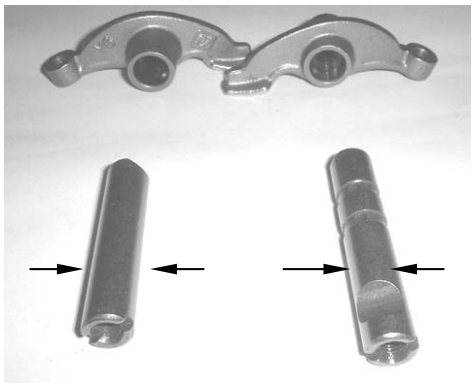
Replace if above 10.10 mm

- Check the outside diameter of rock arm shafts.

Replace if below 9.91 mm

- Check the gap between the rock arm and the rock arm shaft.

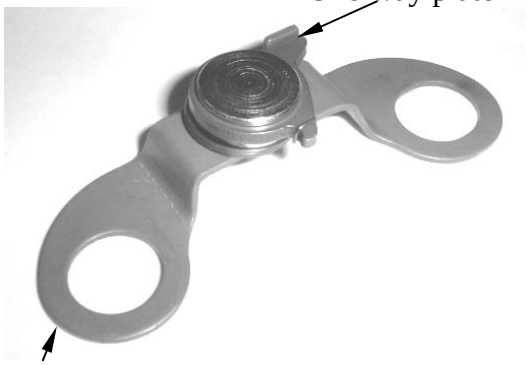
Replace if above 0.10 mm



CYLINDER HEAD, VALVE

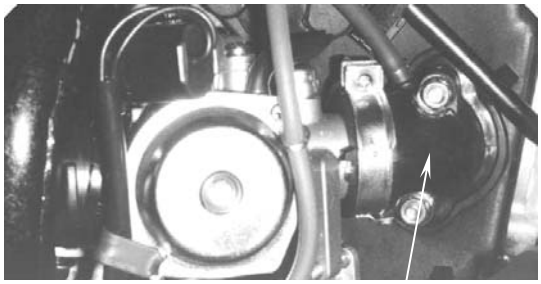
Check the stopper plate

- Check the stopper plate and spring
- Check the movement of the one-way plate.

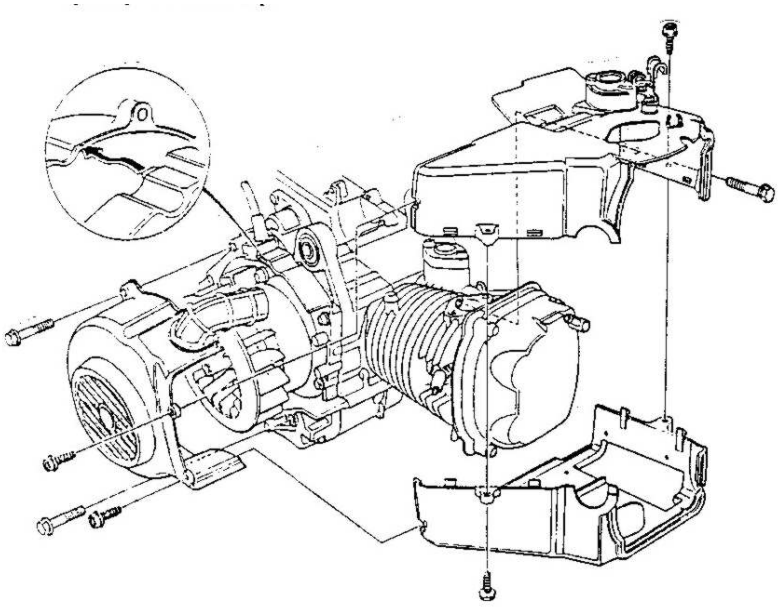


Disassembly the cylinder head

- Remove camshaft
- Remove carburetor
- Remove exhaust muffler
- Remove carburetor intake manifold

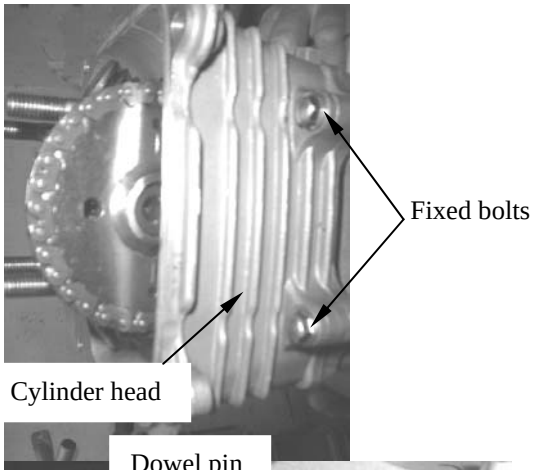


- Remove cooling fan cover
- Remove bolts, screws and engine cover
- Open up fan cover clip

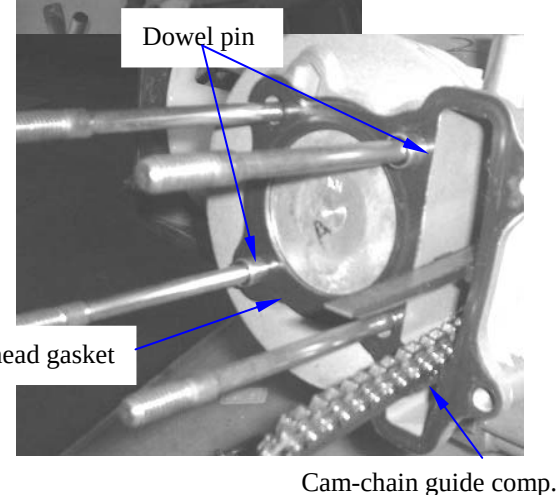


CYLINDER HEAD, VALVE

- Remove cylinder head



- Remove dowel pins, gasket
- Remove cam-chain guide comp.



- Clean the dirt on cylinder surface

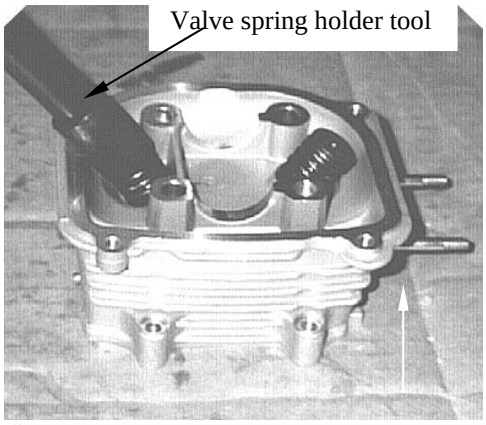
Attestation

∗ Be careful not to damage cylinder contact surface

∗ Be careful do not drop anything into engine

special

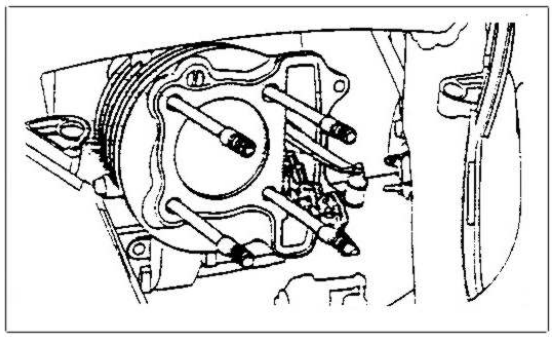
Valve spring holder tool: TLCT125-02



Disassembly cylinder head

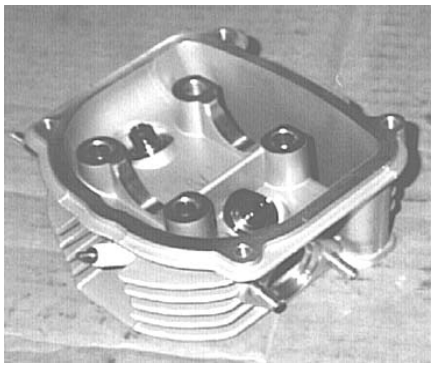
Use valve spring holder tool to remove the spring holder, cotter, spring, valve, and seal.

∗ Valve spring must use special tool to disassembly.
Parts removed have to place in certain order, assembly in opposite order.



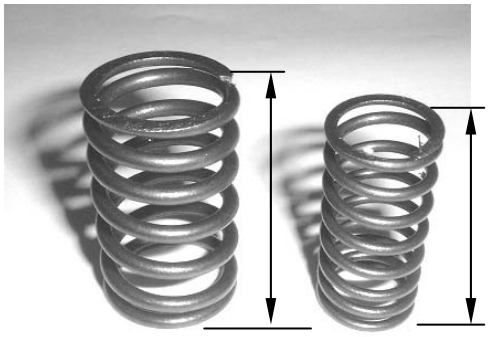
CYLINDER HEAD, VALVE

- Clean carbon material inside combustion chamber.
- Clean gasket material stick on cylinder head surface.



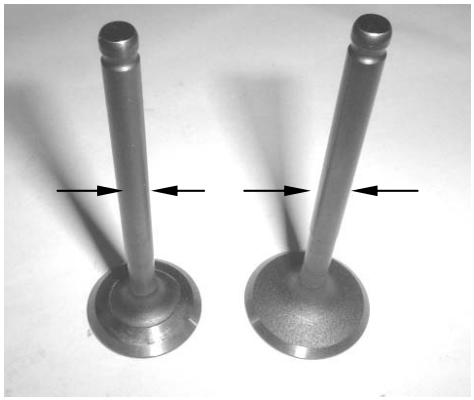
Attention：
∗ Beware not to damage the contact surface of cylinder head

Check cylinder head
Check the hole of spark plug and valve guide to see if it's damaged.



Check valve spring
Working limit:
Outer spring: Replace under 34.1mm
Inner spring: Replace under 31.2mm

Check valve and valve guide
Check valve to see if it's burned or banded.
Check the movement between valve and guide is smooth or not.
Valve outside diameter working limit:
Replace under 4.9 mm



Cylinder head assembly
- Install valve seal, spring seat

∗ Install new valve seal after removed.

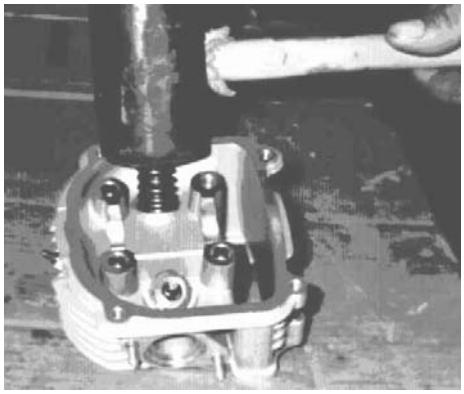
- Install valve into cylinder head with some grease on seal, spring seat
- Install springs, spring holder, cotter and use special tool to assembly.

∗ Must use the special tool.
∗ Valve cotter sharp edge face toward cylinder head bottom.

special
Valve spring holder tool: TLCT125-02

CYLINDER HEAD, VALVE

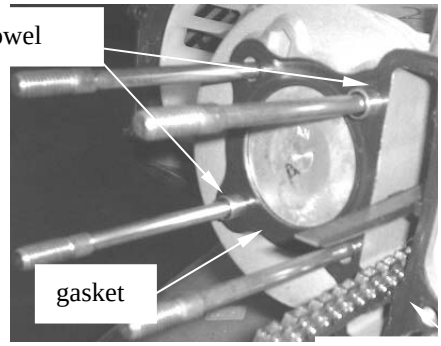
- Use rubber hammer hit the valve top for 2 ~ 3 times to have better contact between valve and cotter.



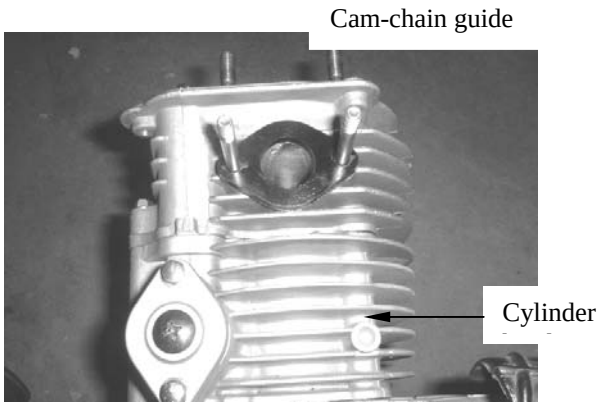
∗ Beware not to damage the valve.

Cylinder head installation

- Install dowel pins and new gasket.
- Install cam-chain guide comp.



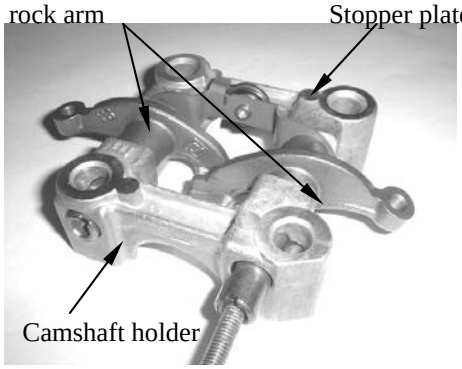
- Install cylinder head
- Install camshaft



Assembly of camshaft holder

On top of camshaft holder, “EX” mark is for exhaust side.

- Assembly rock arm, stopper plate, rock arm shaft.

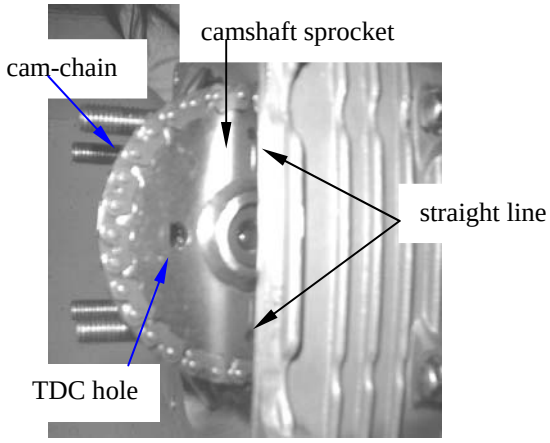


∗ Cutting edge of inlet rock arm shaft should match with camshaft holder bolt-hole.
∗ Cutting edge of outlet rock arm shaft should match with camshaft holder bolt-hole.

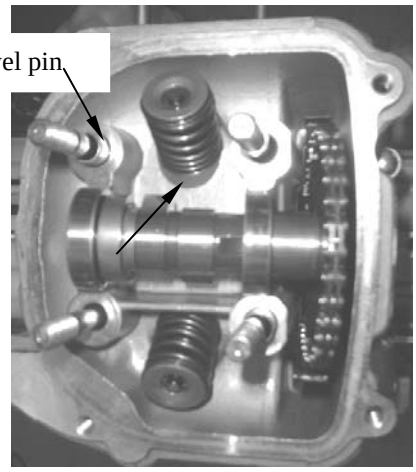
CYLINDER HEAD, VALVE

Installation of camshaft holder

- Rotate ACG flywheel, let the “T” mark aim to crankcase. Make the big hole on camshaft-gear face to the top and two small holes on L/R side straight horizontally to the cylinder top edge (camshaft cam direction face down).
- Install chain onto camshaft gear.



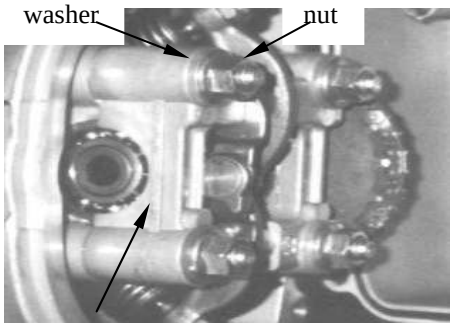
- Install dowel pins.



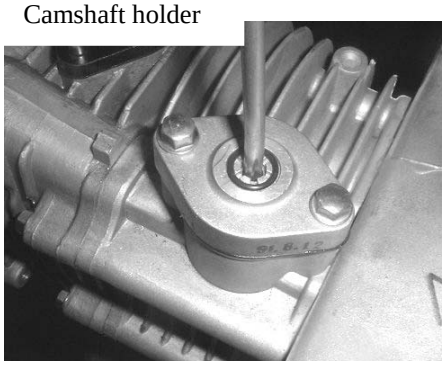
- Put the camshaft holder, washers, and bolts then tie up the bolts on cylinder head.

  Locking torque for cylinder head nuts:

  2.0 kg-m



Camshaft holder



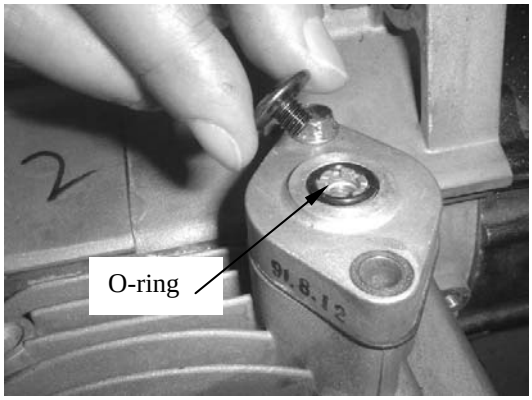
∗ Grease on top of the stub bolt.
∗ Unscrew the bolts cross-wise for 2~3 times.

- Adjust gap between valve and valve screw.
- Counter-Clock Wise rotates the small screw in cam-chain tension adjuster will release the adjuster. The tension adjuster will adjust cam-chain automatically.

CYLINDER HEAD, VALVE

New O-ring should be greased before tie up the cover screw.

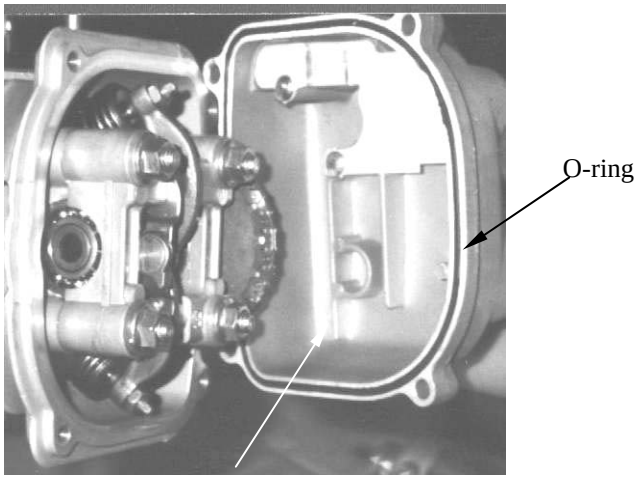
∗ ring must put into the correct position



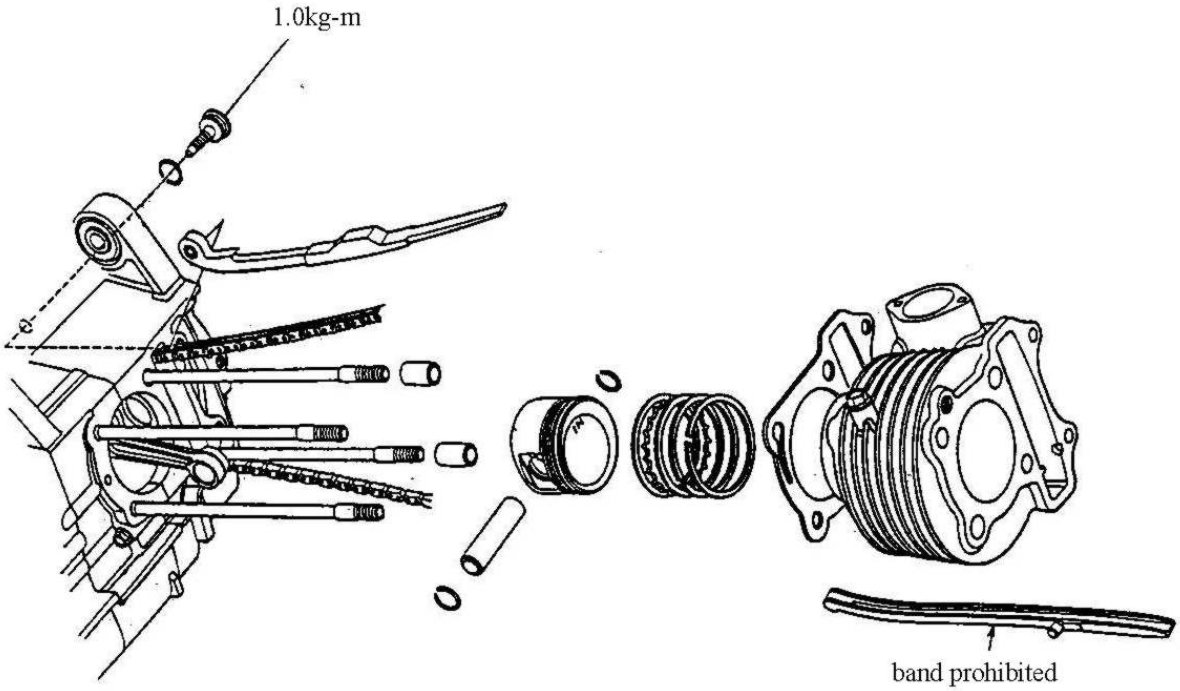
Replace new O-ring on cylinder head cover before assembly the cover,

∗ The O-ring must fit into the cover with correct position.

- Tie up cylinder head cover fixed bolts.



CYLINDER, PISTON



TROUBLE DIAGNOSE

Low compression pressure

- Piston ring wear-out, burn, or broken
- Cylinder, piston wear out or damaged.

Compression pressure too high

- Piston or combustion chamber stocks with carbon material.

Exhaust with white smoke

- Piston ring wear-out, burn, or broken
- Cylinder, piston wear out or damaged.

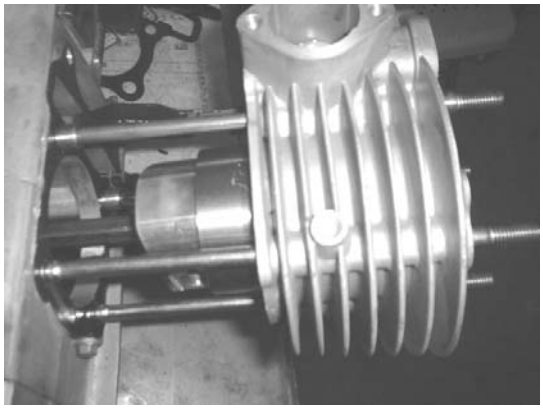
Piston noise

- Piston, cylinder, or piston ring damaged.
- Piston pin and piston wear out

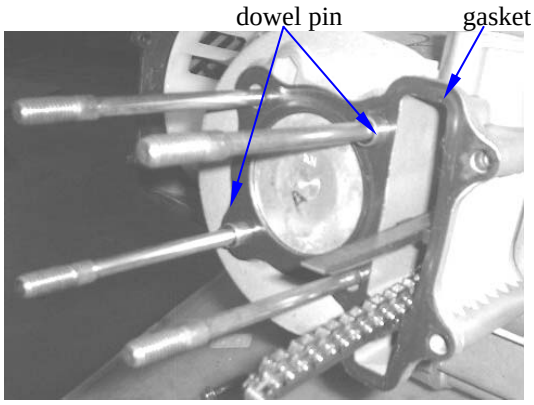
CYLINDER, PISTON

REMOVE CYLINDER

- Remove cylinder head
- Remove the cam chain guide comp.
- Remove the cylinder



- Remove the cylinder gasket and dowel pins.
- Clean the gasket stick on cylinder.

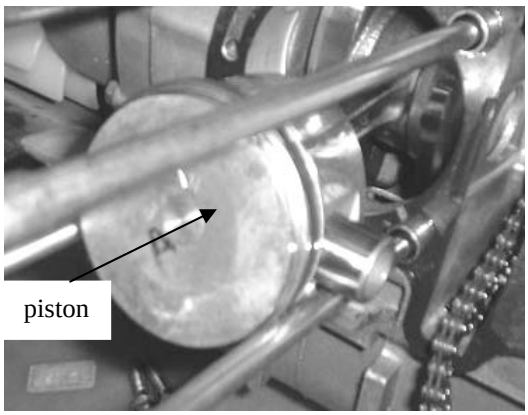


REMOVE THE PISTON

- Take off piston pin clip.

∗ Beware not to drop off the clip into crankcase.

- Take out piston pin and remove the piston.



- Check the piston, piston pin, and piston rings.

∗ Beware not to break or damage the piston rings.

- Clean the residual carbon around the piston ring and ditch on piston.

CYLINDER, PISTON

- Mounting the piston rings and measuring the gap between piston ring and piston ditch.

Working limit:

Top ring: replace above 0.09mm

2nd ring: replace above 0.09mm

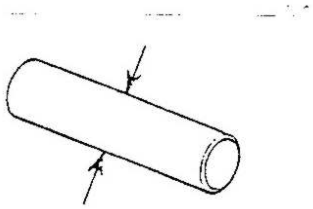
- Take-off piston rings and put into the bottom of cylinder.

* Use piston to press the ring into cylinder.

- Measure the opening gap of the piston ring.

Working limit:

Replace if over 0.5mm



- Measure the hole of the piston pin.

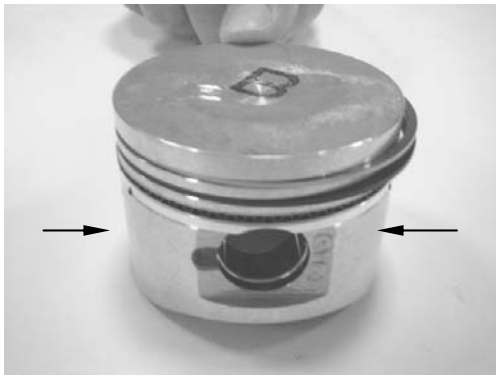
Working limit:

Replace if inside diameter is over 15.04mm

- Measure outside diameter of piston pin.

Working limit:

Replace if under 14.96mm



- Measure outside diameter of piston.

* It's important to measure the outside diameter with vertical position. The measure point is about 9mm away from the bottom.

Working limit:

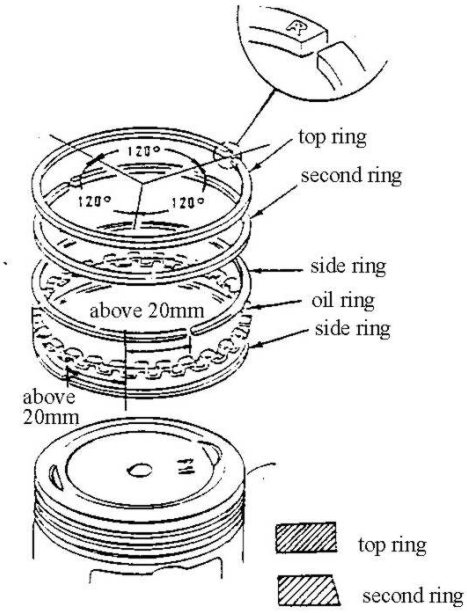
Replace if under 52.3mm

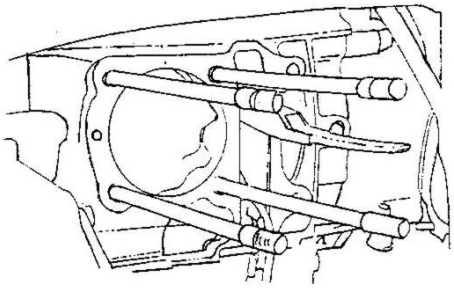
CYLINDER, PISTON

Piston rings installation

- Each ring should be greased with oil.

∗ Do not scratch piston and do not band piston rings.
∗ The mark on piston ring must face up.
∗ Be sure the rings rotate freely after install into piston.

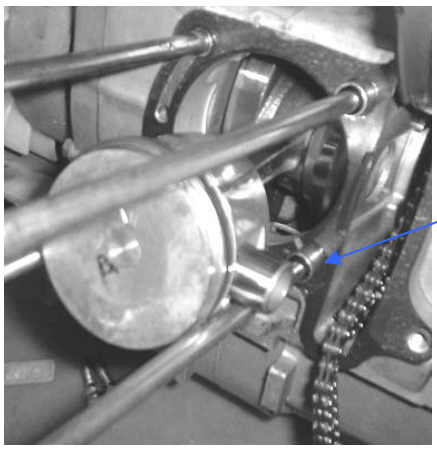




Piston installation

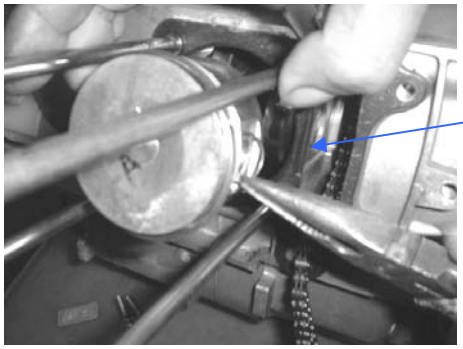
- Clean the gasket stick on top of crankcase.

∗ Do not drop off any material into crankcase.



- Install piston, piston pin, and rings.

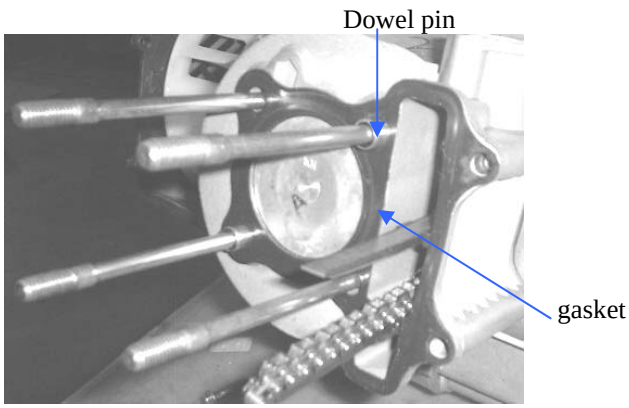
∗ The “IN” mark on top of cylinder must aim at the intake valve position.
∗ Piston pin clip must not drop into crankcase. Use cloth to seal the crankcase.



CYLINDER, PISTON

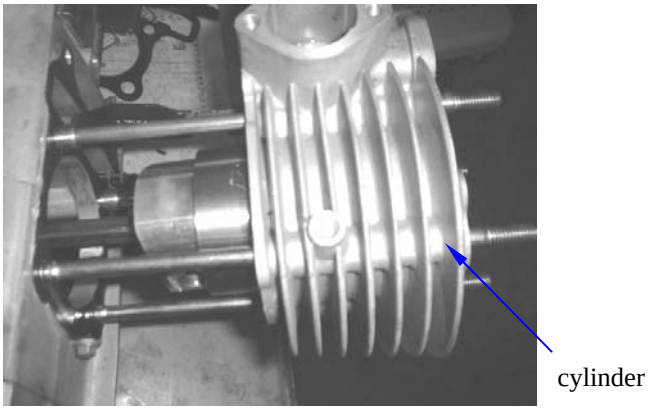
Cylinder Installation

- Put the dowel pins and gasket on top of crankcase.

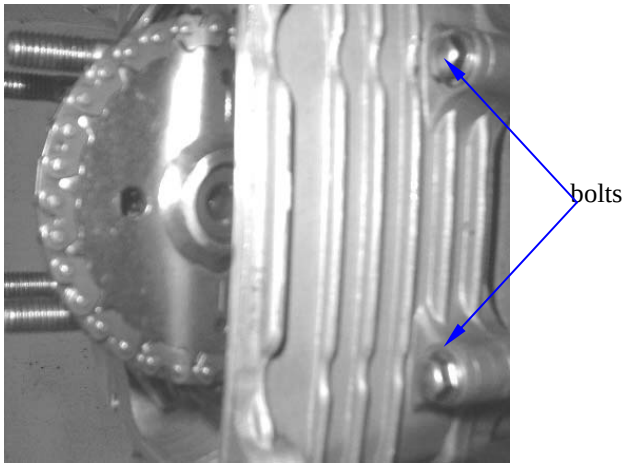


- Cylinder inside surface, piston, and piston rings must be greased with oil.
- Beware of the pressure from piston ring and install into cylinder.

∗ Be careful not to damage or band the piston ring.
∗ The opening section of piston rings should not be the same with piston pin and set into 120^0 to each other.

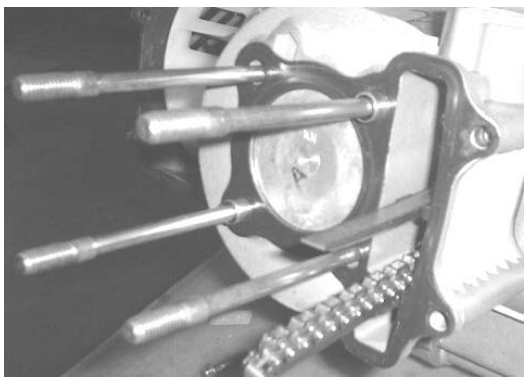


- Install 2 bolts of the cylinder.



- Install cam chain guide comp.

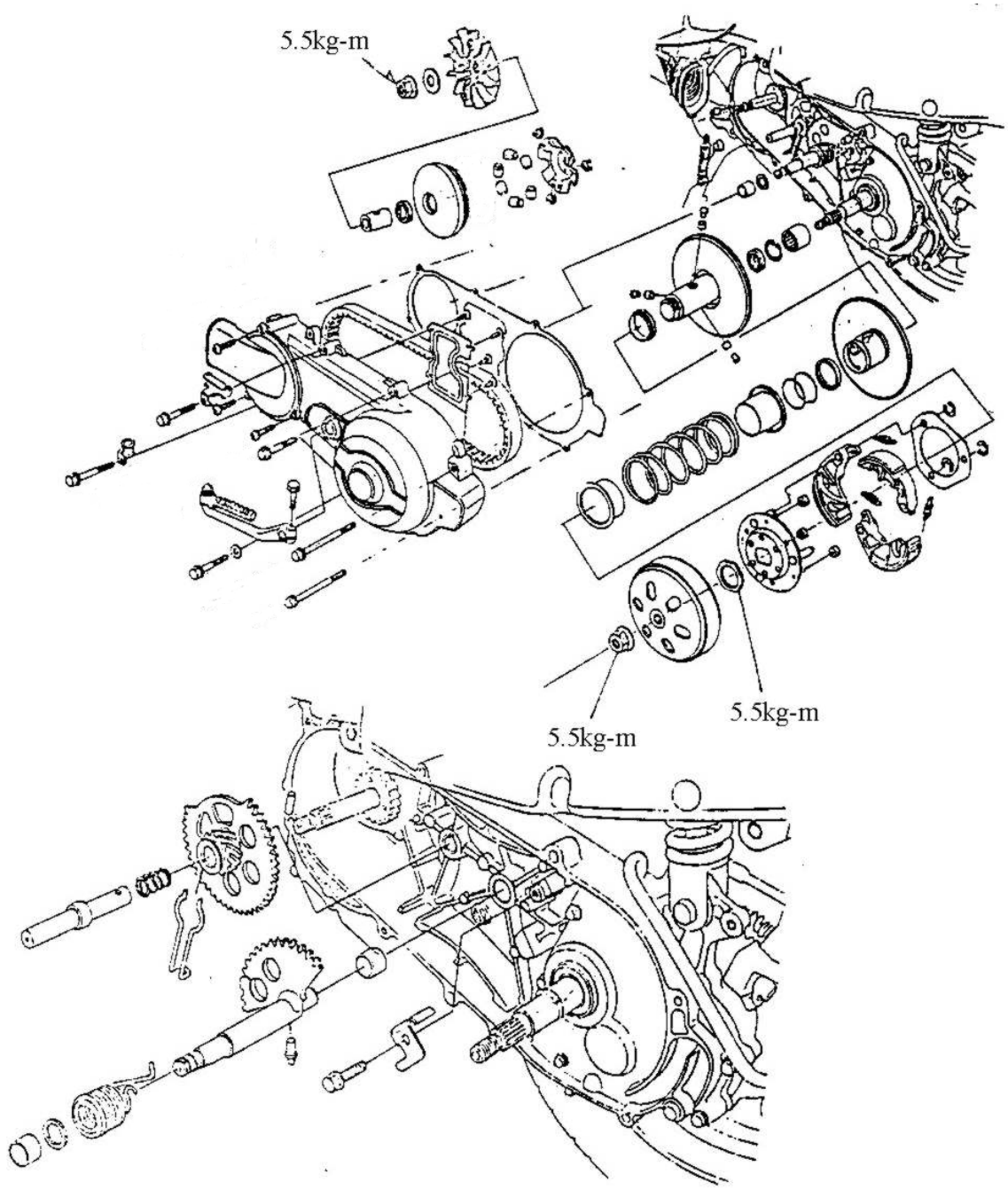
∗ The cam-chain guide comp. should be put into correct position of cylinder.



cam-chain guide comp.

- Install cylinder head.
- Tie-up the nuts and bolts on camshaft holder and cylinder head cover.

TRANMISSION, KICK START



TROUBLE DIAGNOSE

Vehicle does not move after engine start up

- Drive belt wear-out
- Drive face comp. damage
- Clutch lining wear-out
- Driven ass'y spring defect

Power insufficient

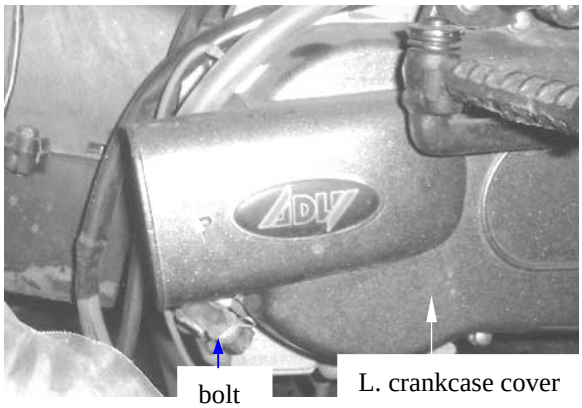
- Drive belt wear-out
- Driven ass'y spring defect
- Drive face dirty or oily
- Weight roller wear-out

TRANMISSION, KICK START

LEFT CRANKCASE COVER

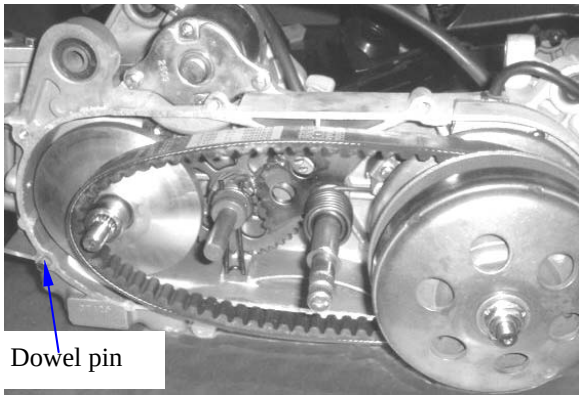
Disassembly

- Remove the kick-starter arm.
- Take-off fixed bolts and remove the L crankcase cover.
- Remove the gasket and dowel pins.



Assembly

- Install the gasket and dowel pins.



- Install the L crankcase cover.

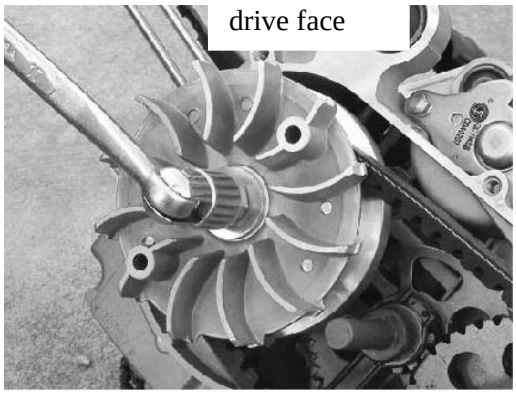
∗ Do not pull out kick starter spindle and press the spindle firmly when

- All brackets for cables have to set into correct position and tie-up to the cover.
- Be sure all cables go into the bracket.

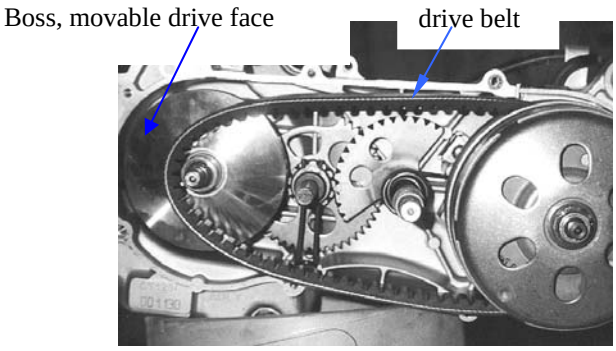
TRANMISSION, KICK START

Drive face disassembly

- Remove L crankcase cover.
- Use fixture to hold the drive face and take-off screw, washer, and drive face.



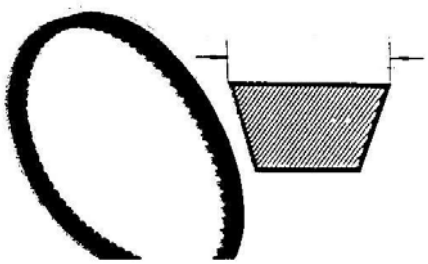
- Take-off drive belt from movable drive face assembly.



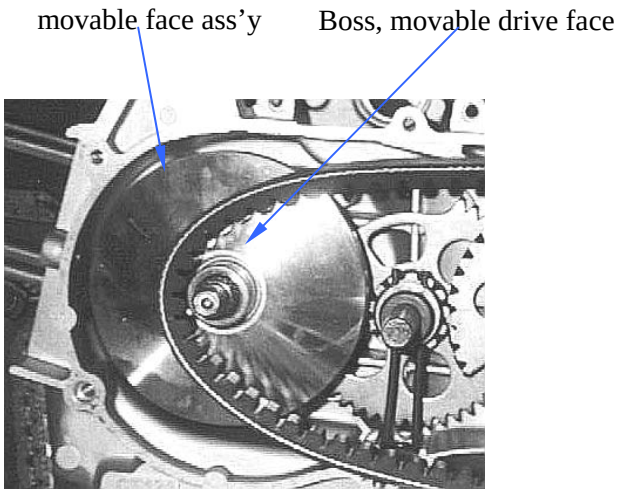
Check

- Check the drive belt to see if it's damaged, rubber/fiber came off, or any other abnormal wear-out.
- Check the width of drive belt.

Working limit :
Replace if under 19.0mm



∗ Use genuine parts to replace.
Movable drive face ass'y

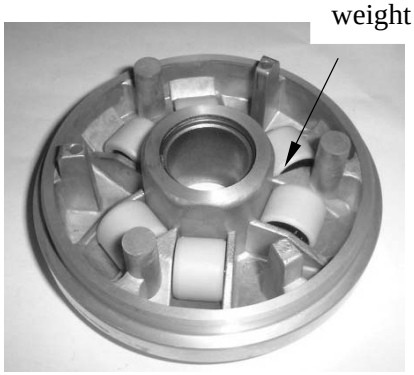


- Take-off the movable drive face assembly.

TRANMISSION, KICK START

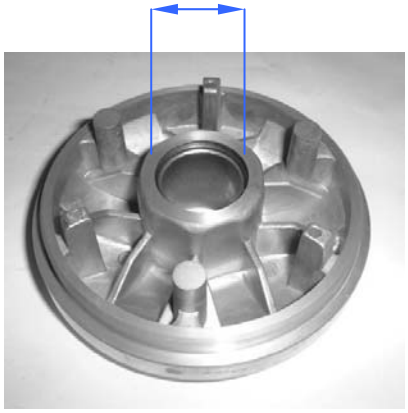
Disassembly
- Remove the cam plate.
- Remove the weight roller.

Check
- Check the wear-out and damage of weight roller.



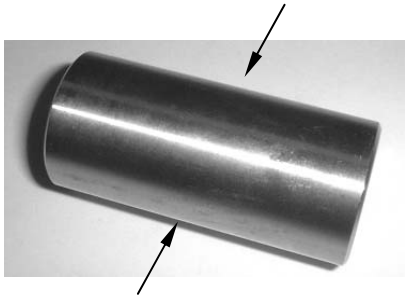
- Measure outside diameter of weight rollers.

Working limit :
Replace if outside diameter is under 17.3 mm .



Check
- Check inside diameter of the movable drive face .

Working limit :
Replace if over 24.10mm

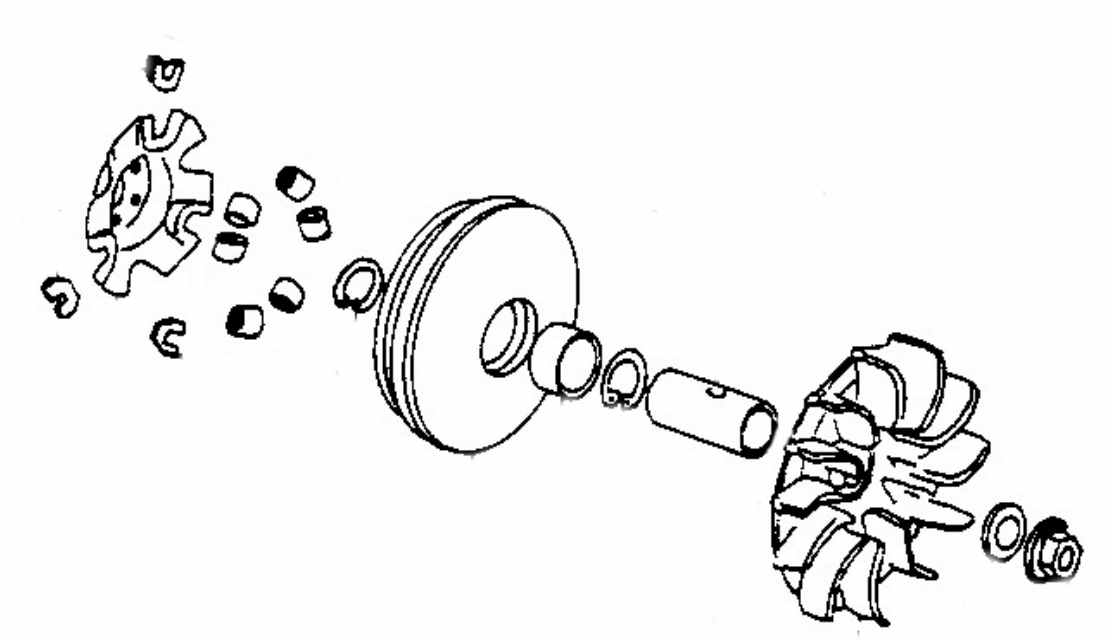


- Check the damage and wear-out of movable drive face boss.
- Measure sliding outside diameter of the boss.

Working limit :
Replace if under 23.90 mm

TRANMISSION, KICK START

Assembly diagram



- Put the weight rollers into movable drive face.
- Install the cam plate.

cam plate

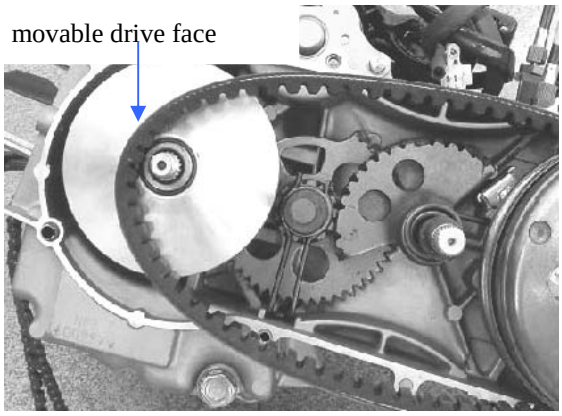
- Put the boss into drive face assembly.

boss, movable drive face

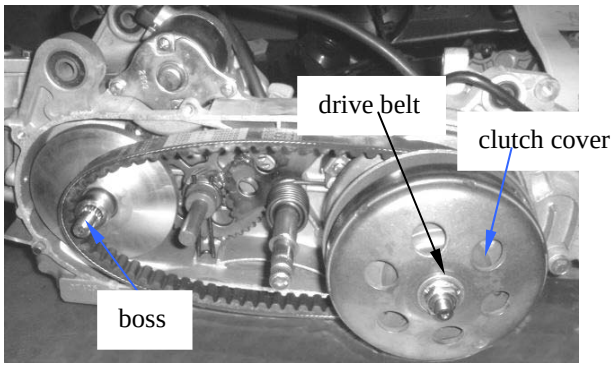
TRANMISSION, KICK START

Installation

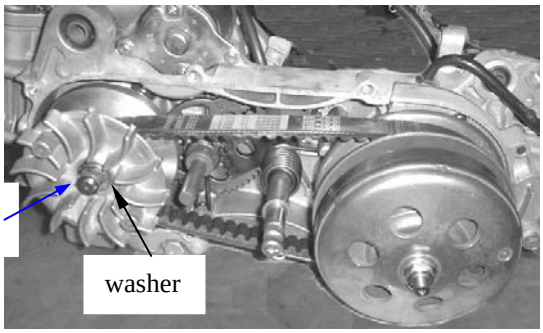
- Put the movable drive face assembly into the crank shaft.



- Put the drive belt into rear driven face assembly.
- Put the drive belt on the boss of movable drive face assembly.



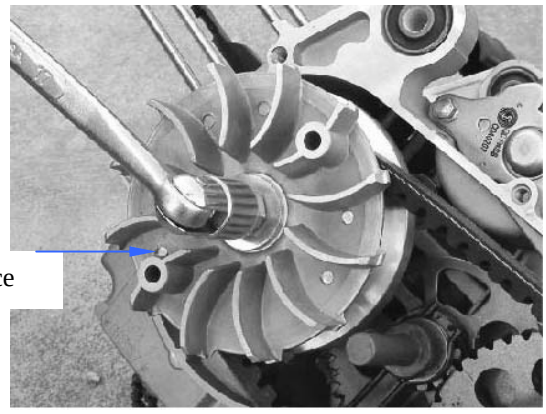
- Install the fixed drive face, washer, and nut.



- Use fixture to hold the drive face and tie-up the nut.

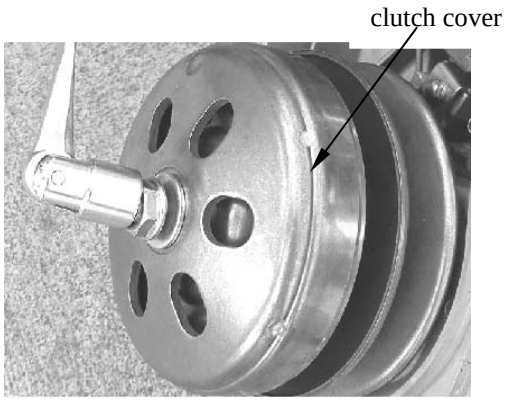
Locking torque: 5.5 kg-m

∗ Drive belt and drive face can not have any oily material.
∗ After tie-up the nut, move the drive belt to normal position.



TRANMISSION, KICK START

CLUTCH/ DRIVEN FACE ASS'Y



- Remove the L crank case cover. (9-1)
- Remove the fixed drive face and drive belt. (9-2)
- Use fixture to hold the clutch cover and loose the nut.
- Remove the clutch cover.

Check

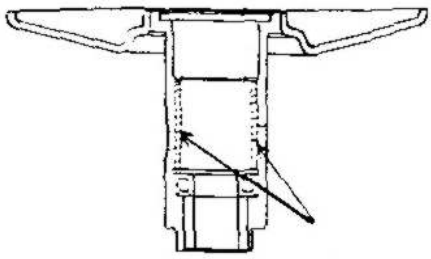
- Check the cover if wear-out or damaged.
- Check the inside diameter of cover.

Working limit :
Replace if over 125.5 mm

- Check the clutch lining if wear-out or damaged.
- Measure the thickness of the clutch lining.

Working limit :
Replace if under 1.5 mm

∗ The clutch lining and driven face can not have any oil attached.



- Inside the boss of driven face assembly should be greased.

∗ Use 9~9.5 g to grease fairly.

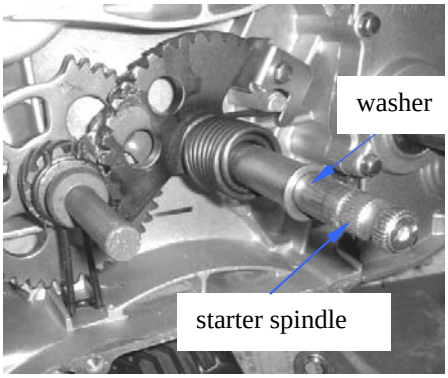
grease

TRANMISSION, KICK START

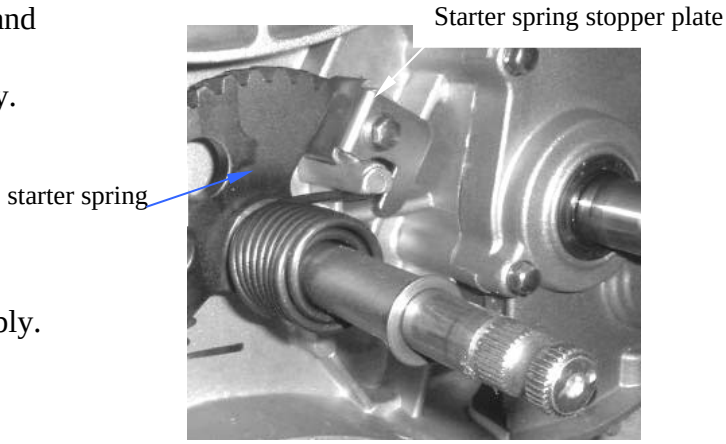
KICK STARTER

Disassembly

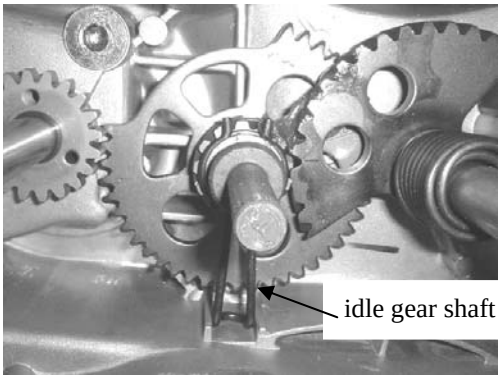
- Remove L crank case cover (9-1)
- Remove gasket and dowel pins.
- Remove drive-face and belt. (9-2)
- Remove the washer on starter spindle assembly.



- Remove the kick starter stop plate and the starter spring.
- Pull out the starter spindle assembly.



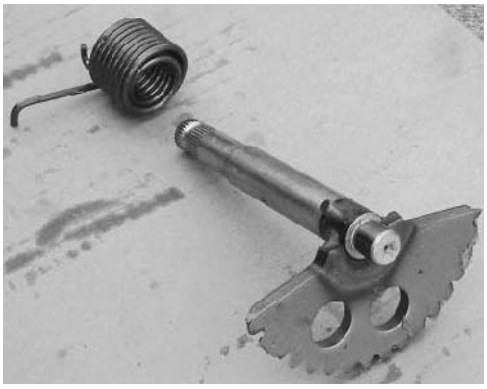
- Remove the starter idle gear assembly.



Disassembly

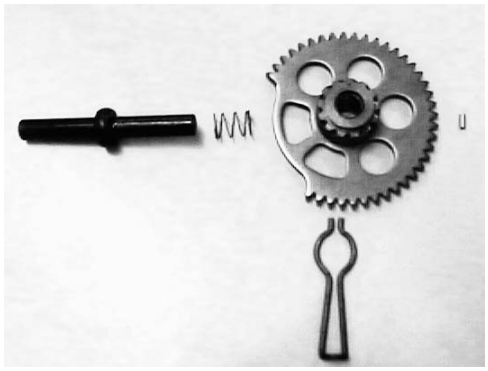
- Disassembly starter spindle assembly.
- Check if the spindle wear-out or damaged.
- Assembly the starter spindle based on reversed procedure.

∗ The starter spindle should be greased.



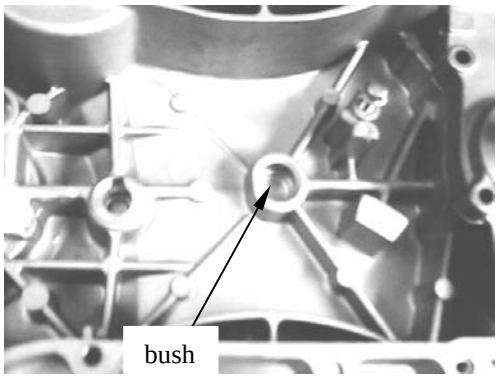
TRANMISSION, KICK START

- Disassembly the starter idle gear to check if there is any damage.
- Assembly the gear should base on reversed procedure.



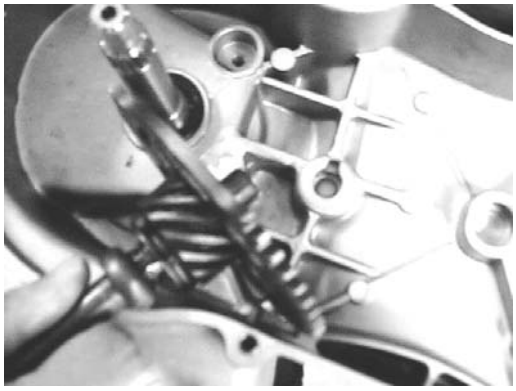
Check

- Check the contact surface of L crankcase and crank case cover if there is any damage or wear-out.



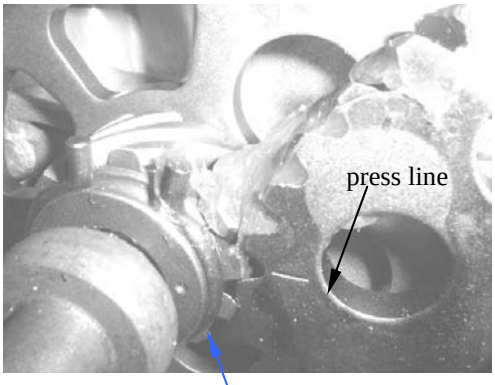
Installation

- The pin on starter idle gear shaft should aim at the correct position of L crankcase.

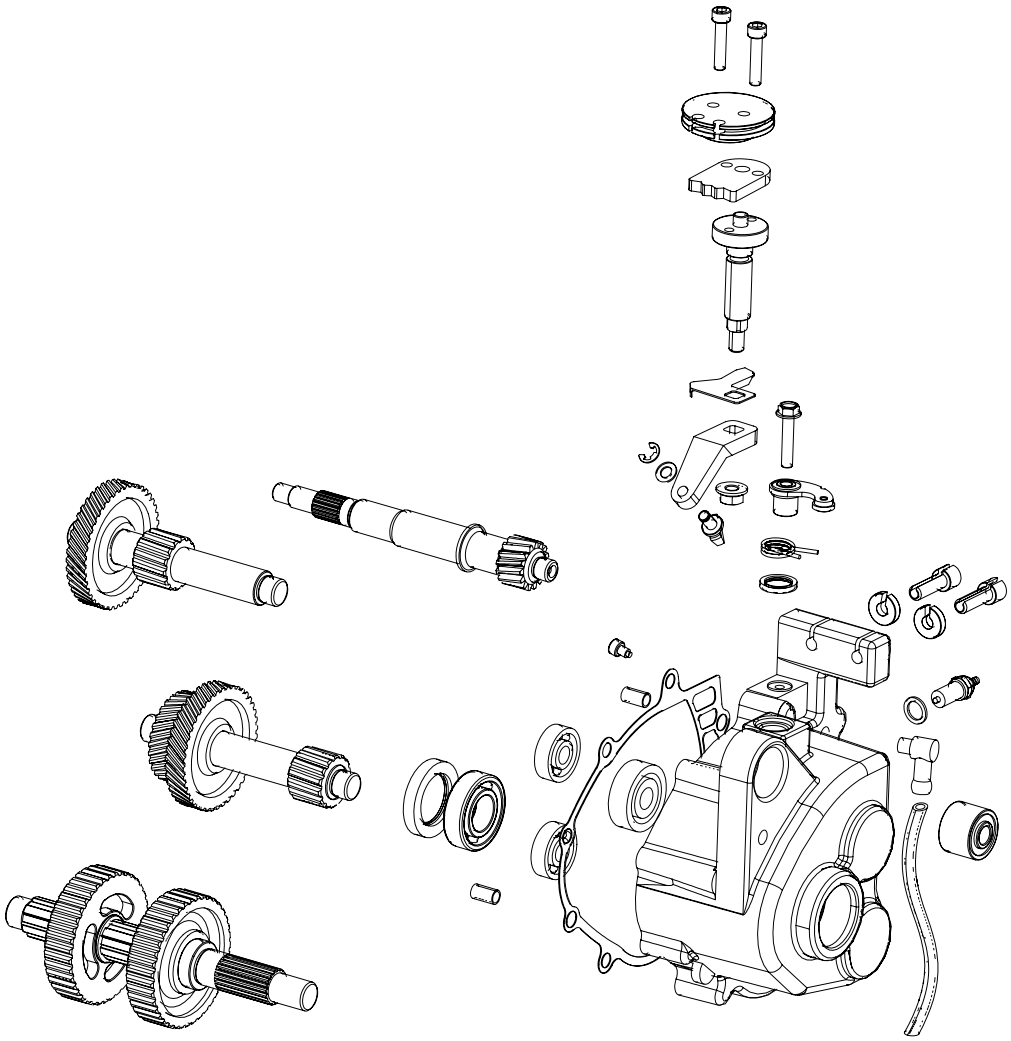


The pressed line on starter gear should aim at the pressed mark of idle gear.

- Put the starter spring into the stop position.
- Install the stopper plate.
- Install the gasket and dowel pins.
- Install the drive belt and drive face.
- Install the L crankcase and kick starter arm.



FINAL TRANSMISSION
【GK-125R】



TROUBLE DIAGNOSE

Engine starts but vehicle does not move.

- Transmission gears broken.
- Transmission gears burns out.

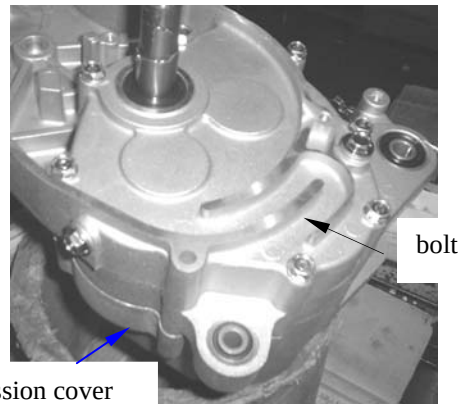
Gear oil leaking

- Too much gear oil filled.
- Oil seal wear-out or damage.

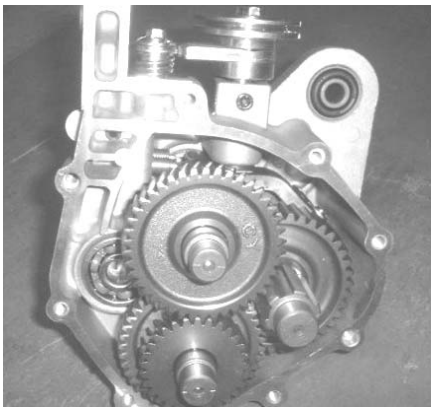
FINAL TRANSMISSION

DISASSEMBLY TRANSMISSION GEAR BOX

- Remove, drive chain and sprocket.
- Drain transmission gear oil.
- Remove the bolts and pull-out mission cover.



- Remove the mission cover together with the gear set.
- Remove the gasket and dowel pins.



- Remove the hex flange bolt, shift lever and contact plate.

CHECK

∗ Check if the shift shaft is wear-out or not.

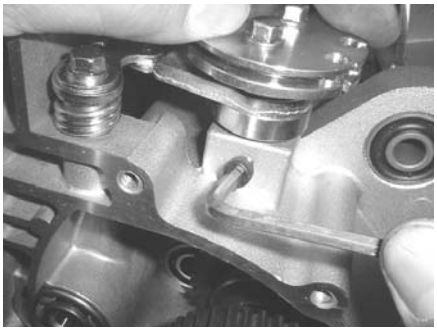
CHECK

∗ check if then is any wear-out of the sliding area of the shifter arm.

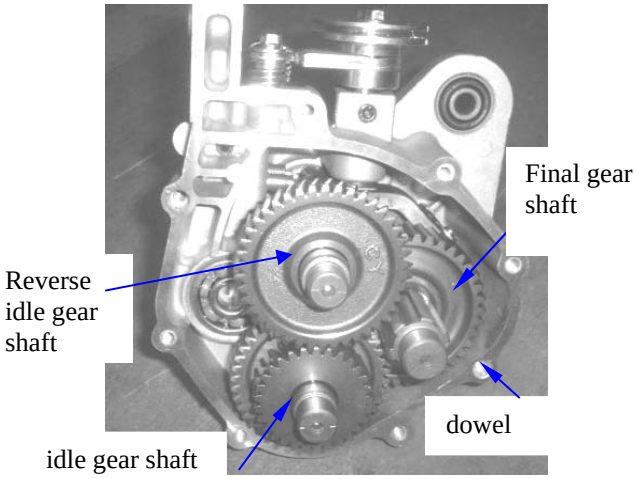
FINAL TRANSMISSION

DISASSEMBLY TRANSMISSION GEAR BOX

- Remove the hex socket bolt then pull out the shaft.



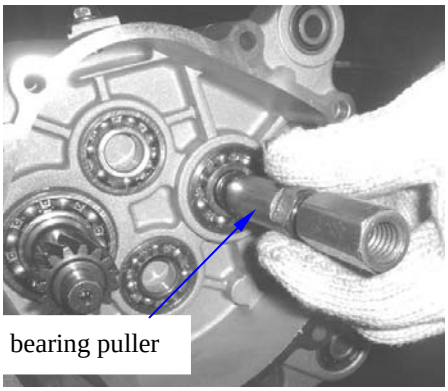
- pull outer in remedial shaft and find drive gears.



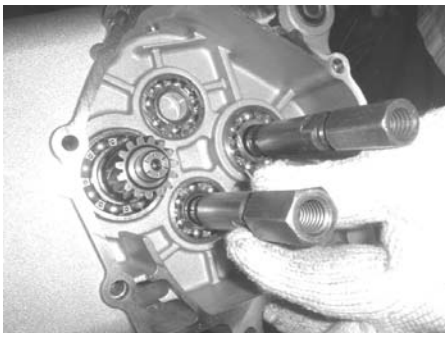
- Take-out the final gear and gear shaft
- Take-out the main gear shaft and main gear.

Check final transmission gearbox.

- Check the wear-out or damage of gears, shafts, and bearings.



When bearings has been damaged, use special tool to pull out all bearings.



special — TLCT125-06
Bearing puller set

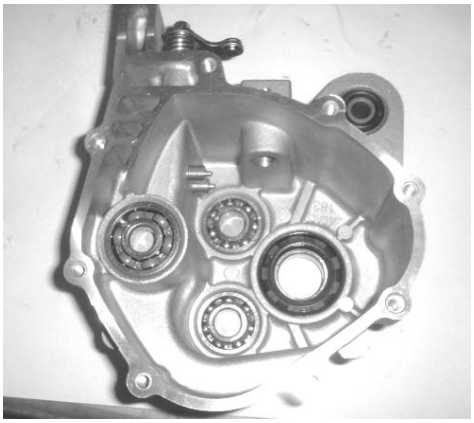
FINAL TRANSMISSION

Bearing installation

- Use the tool press the bearing outer ring when install into crankcase or mission cover.

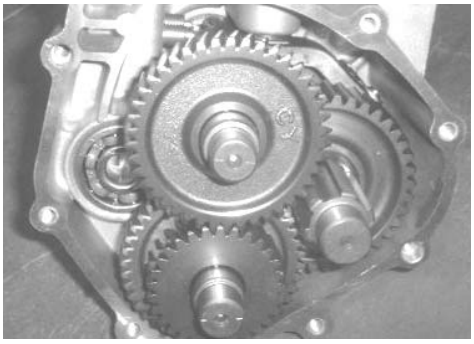
Attention：

∗ The bearings have to be pressed on outer ring to avoid damage of bearings.

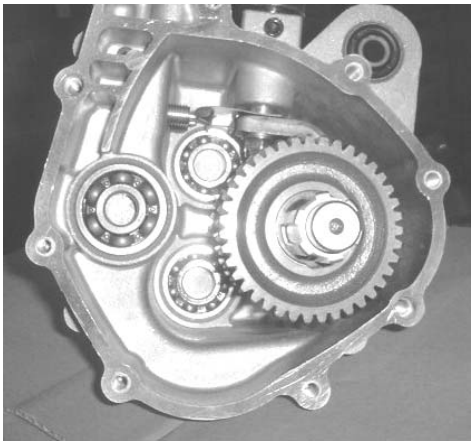


Final transmission installation

- Install the main gear assembly and final gear shaft into crankcase.
- Install the final gear onto shaft.



- Install new gasket and dowel pins.



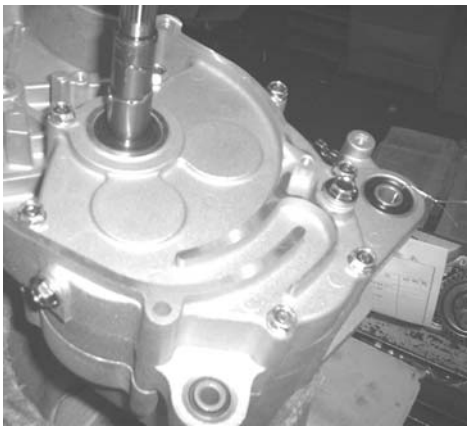
- Install the mission cover and bolts.

Locking torque :1.2 kg-m

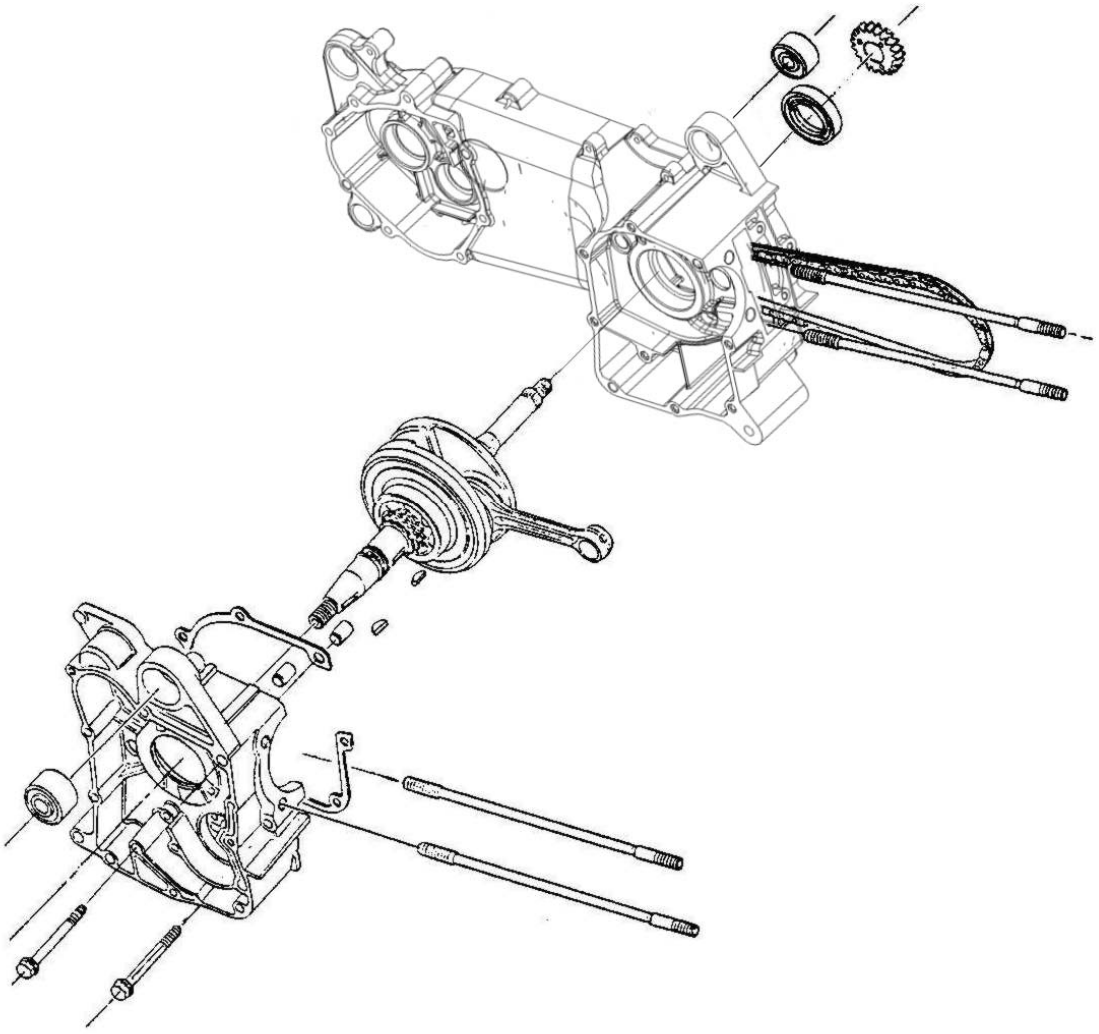
- assembly the gear set and mission in reverse sequence
- Fill in final transmission gear oil into gear box.

Recommend oil : 85W/140
SAE#90

Exchange : 300 c.c.
Disassembly : 350 c.c.



CRANKCASE, CRANKSHAFT



TROUBLE DIAGNOSE

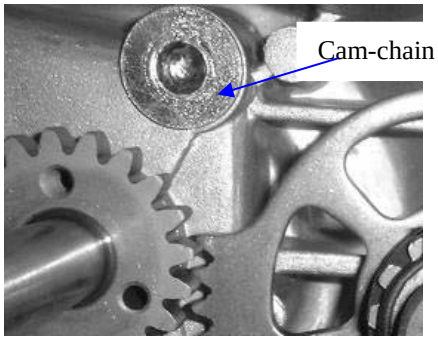
Engine noise

- Loose of crankshaft bearings.
- Loose of bearings inside crankshaft connecting rod.

CRANKCASE, CRANKSHAFT

CRANKCASE DISASSEMBLY

- Remove the cam-chain tensioner by unscrew the fixed bolt.

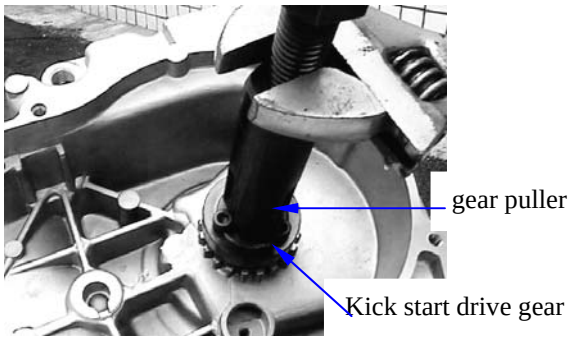


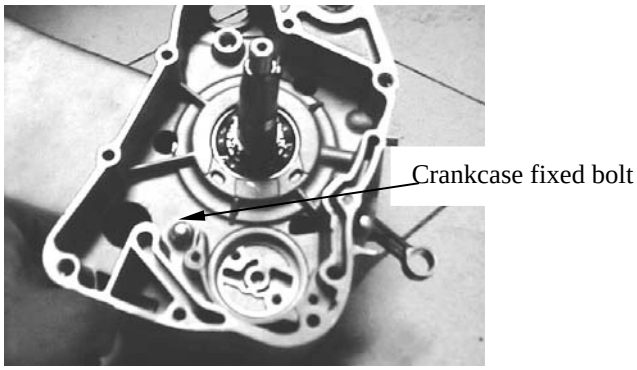
d

- Use special tool to pull out the kick-start driven gear.

special

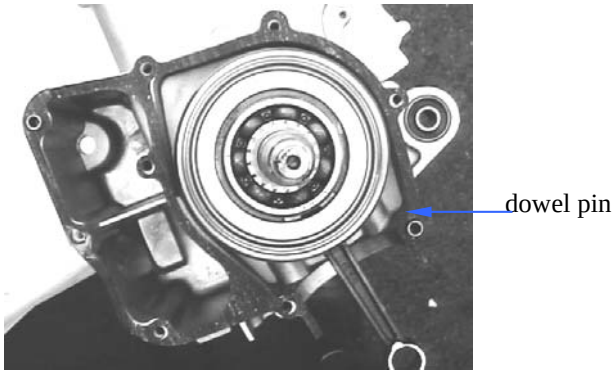
TLCT125-05
Kick-start driven gear puller





- Take-off 2 bolts on R crankcase.
- Disassembly L/R crankcase.

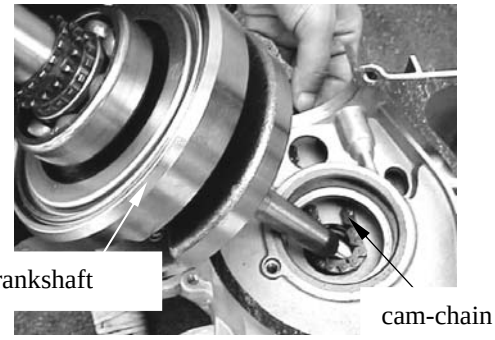
∗ Do not damage the gasket area of the crankcases. This will avoid the oil leaking after assembly.



- Remove the gasket and dowel pins.

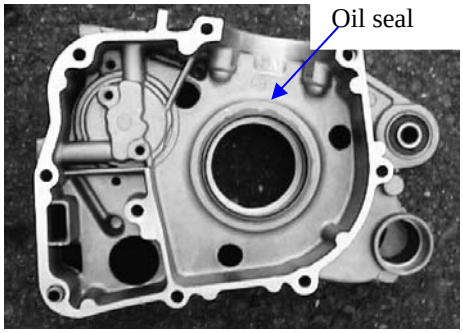
CRANKCASE, CRANKSHAFT

- Loose the cam-chain and remove crankshaft from crankcase.
- Take out cam-chain.



- Scratch off the gasket which between crankcases.

* Do not damage the gasket area of the crankcases.



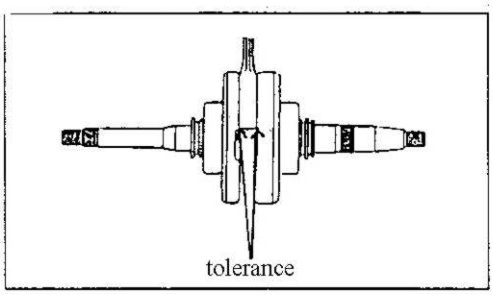
- Remove both oil seals from L/R crankcases.

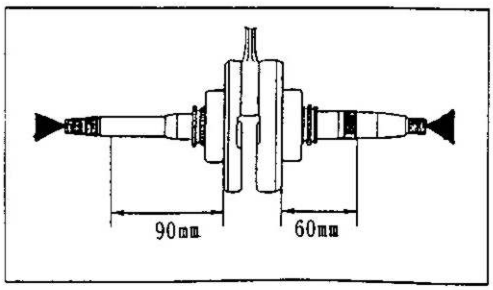
CRANKSHAFT

- Check the tolerance between connecting rod and crankshaft.

Working limit :

Replace if over 0.55mm





- Check the balance of crankshaft.

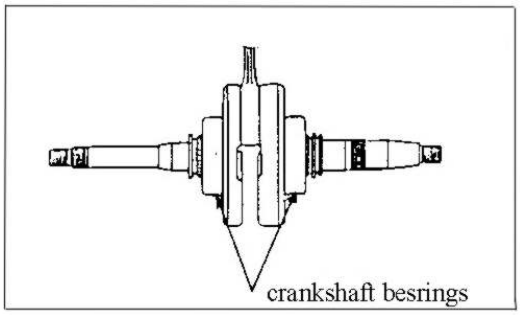
Working limit :

Replace if over 0.10mm

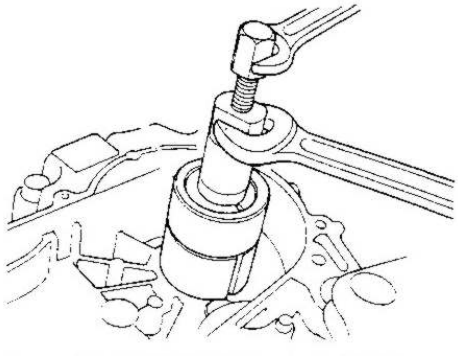
CRANKCASE, CRANKSHAFT

- Rotate the bearings to check if any abnormal noise or loose.
- Use special tool if need to pull out the bearings.

special TLCT125-00
Bearing puller



Replace complete crankshaft assembly if necessary.

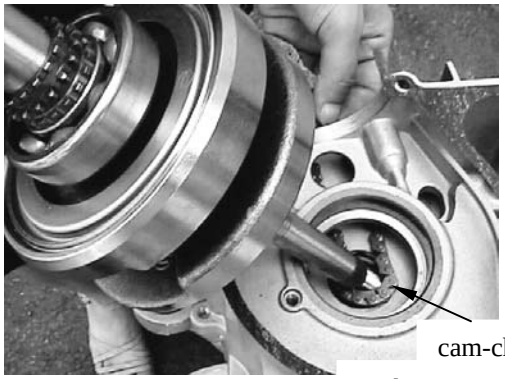


Crankcase assembly

- Press in the oil seal for L/R crankcases and do not damage the inner part of the seals.

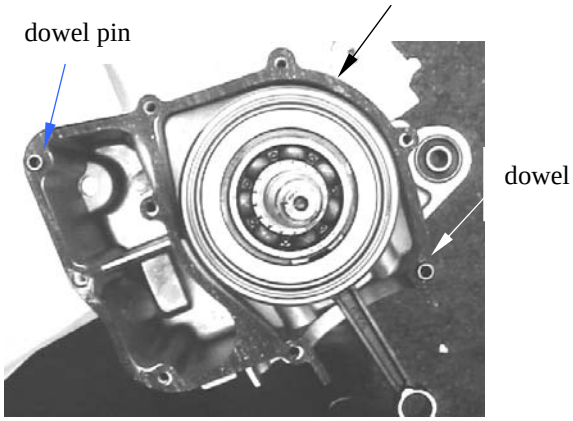
- Install the cam-chain into L crankcase.
- Install the crankshaft into L crankcase.

∗ Beware not to damage the oil seal by install the cam-chain.



- Install dowel pins and new gasket.

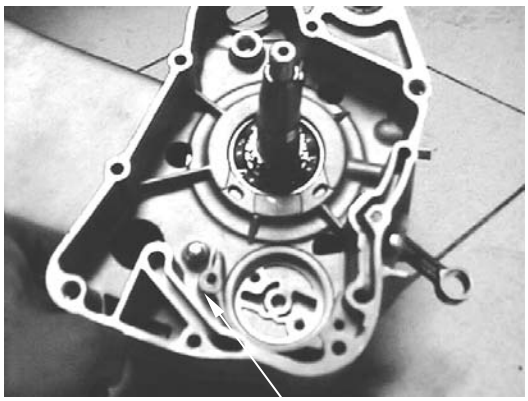
∗ Setup the L crankcase on the bottom and install the R crankcase.



CRANKCASE, CRANKSHAFT

- Tie-up 2 bolts on L crankcase.

Locking torque:
0.9 kg-m



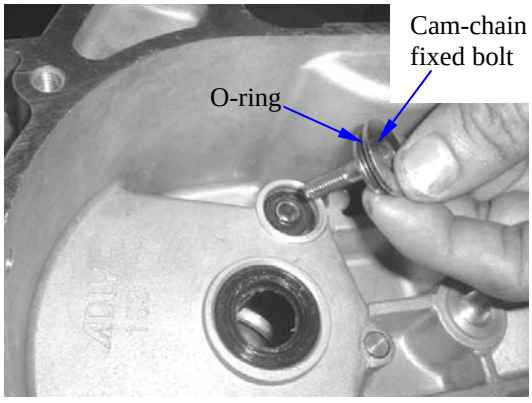
crankcase fixed bolt

- Install the kick-start driven gear.

kick start drive

- Install the cam-chain adjuster guide.
- Install the new O ring on the fixed bolt for cam-chain adjuster.
- O-ring must be greased and tie-up.

Locking torque:
1.0 kg-m



* The O ring must fit into correction position.

FRONT WHEEL / SUSPENSION / BRAKE / STEERING

Attention of Operation

・Remove the body cover and support the frame body bottom before remove the front wheel, don't invert the front wheel when front wheel depart ground.

Diagnosis of Trouble

Heavy steering movement

- Air pressure too low inside of front tire.
- Rim radial ball bearing broken.

Brake efficiency abnormal

- Brake lining wear-out.
- Brake pads adjust not correct or wear out.
- Brake drum wear-out.
- Tire wear-out.

Steering handle not straight

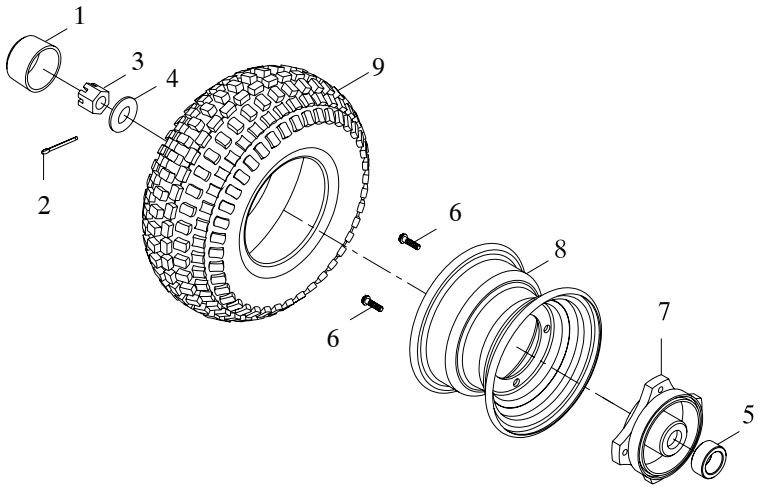
- Loose, not correct adjustment or damaged, right (or left) link Ass'y.
- Steering shaft bended.
- Suspension arm, knuckle damaged.
- Rim damaged.

Front wheel shaking or deviation

- Front rim defected.
- Loose or damaged of front rim bearings.
- Tire defect.
- Bad adjustment or defected of the right (or left) link Ass'y.
- Bad adjustment or defected of the right (or left) knuckle.

FRONT WHEEL / SUSPENSION / BRAKE / STEERING

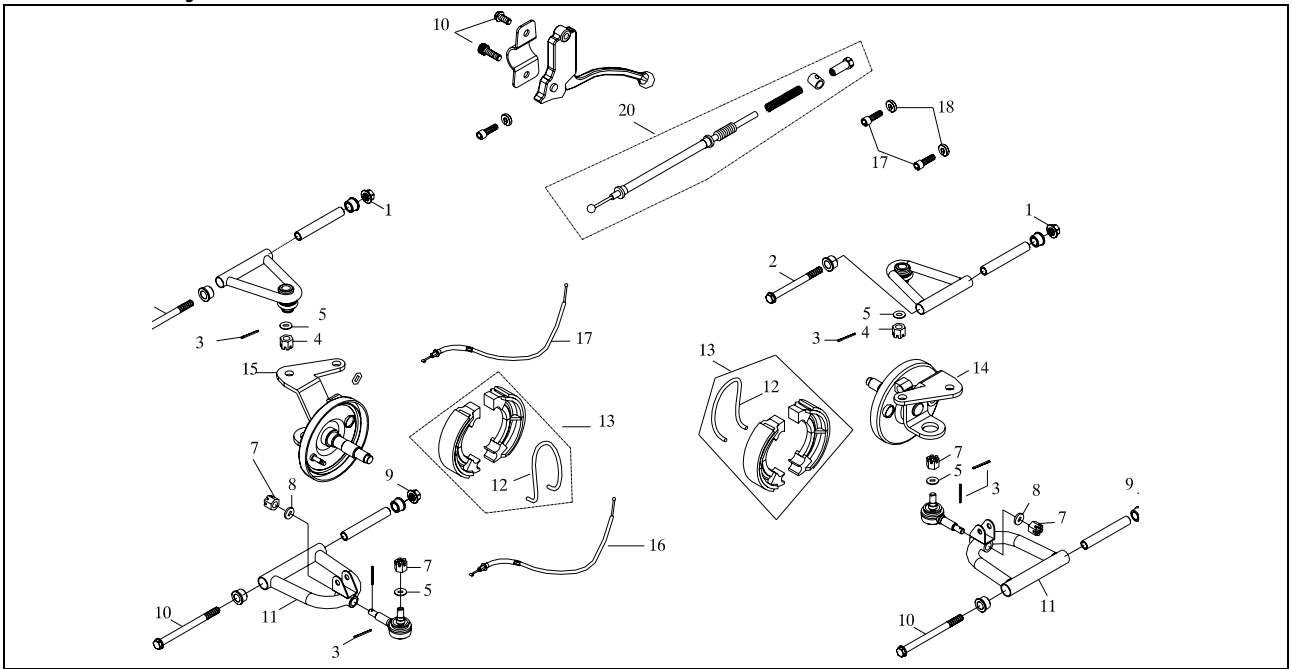
Disassembly of Front Wheels



	Operation / Parts name	Q'ty	Remarks
	Disassembly front wheels (L/R)		
1	Rubber cover	2	
2	Cotter pin	2	
3	Slotted nut	2	
4	Plain washer 12*40*4.5	2	
	Disassembly front brake drum		
5	Spacer tube	2	
6	Hex washer face bolt 10*20	8	
7	Front brake drum	2	
8	Rim 7*5.2	2	
9	Tire 18*7-7	2	
	Assembly front brake drum 9→5 Assembly wheels 4→1		• Assembling with sequence in reverse of disassembly. ∗ ***WARNING:*** Change the R/L bearing set if necessary.

FRONT WHEEL / SUSPENSION / BRAKE / STEERING

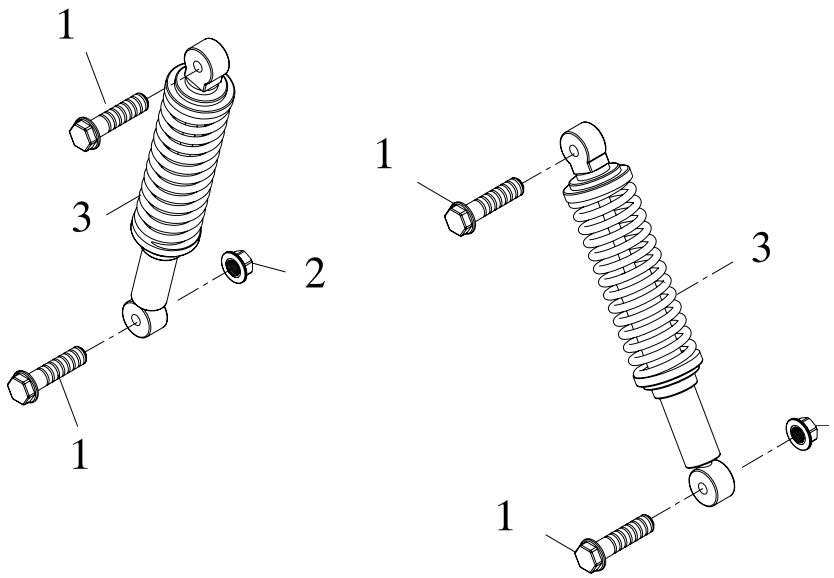
Disassembly of Front Brake



seq	Operation / Parts name	Q'ty	Remarks
	Disassembly front brake drum (L/R)		
1	Nylon nut 10mm	4	
2	Hex washer face bolt 10*175	2	
3	Cotter pin 2*19	6	
4	Scotch flange nut 10mm	2	
5	Plain washer 10*20*2	6	
6	Upper a-arm ass'y	2	
7	Hex slotted nut 12mm	4	
8	Plain washer 12*22*2	2	
9	Nylon nut 10mm	4	
10	Hex washer face bolt 10*175	2	
11	Lower oscillation arm	2	
12	Strain spring	2	
13	Front brake shoe comp.	2	
14	Right knuckle ass'y	1	
15	left knuckle ass'y	1	
16	front brake cable	2	
	Disassembly parking brake		
17	lock bolt	2	
18	lock nut	2	
19	bolt	2	
20	parking brake cable	1	
	Assembly front brake drum 16→1 parking brake 20→17		• Assembling with sequence in reverse of disassembly. ∗ ***WARNING:*** Change the R/L bearing set if necessary.

FRONT WHEEL / SUSPENSION / BRAKE / STEERING

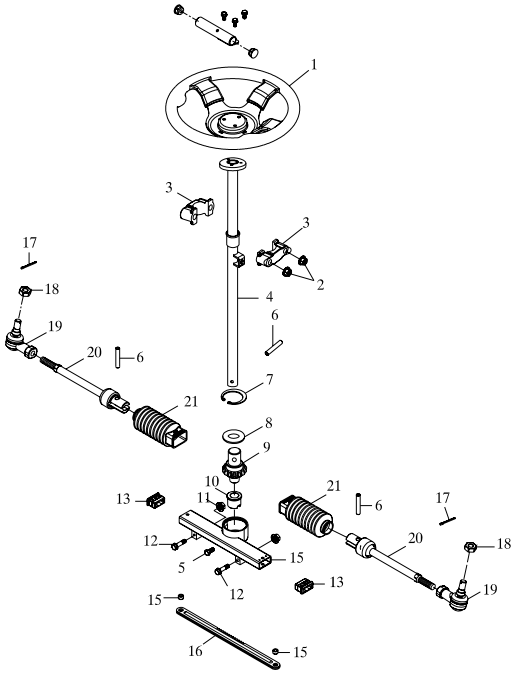
Disassembly of Suspension Arm



seq	Operation / Parts name	Q'ty	Remarks
	Disassembly (L/R)		
1	Hex washer face bolt 10*40	4	
2	Nylon nut 10mm	8	
3	Front cushion	2	
4	Hex washer face bolt 10*179	4	
	Assembly 12→1		∗ Assembling with sequence in reverse of disassembly.

FRONT WHEEL / SUSPENSION / BRAKE / STEERING

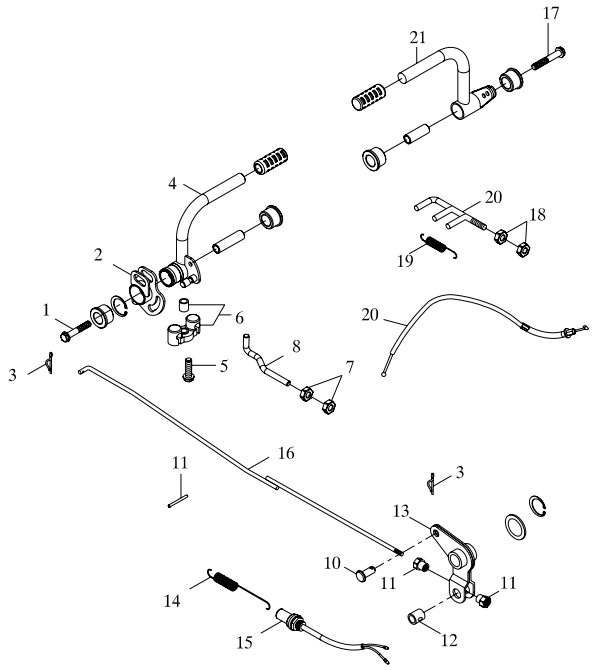
Disassembly of Steering Shaft Ass'y



seq	Operation / Parts name	Q'ty	Remarks
	Disassembly *steering shaft Ass'y*		
1	Handle Wheel A'ssy	1	
2	Hex flange nut with serration 8mm	2	
3	Steering shaft holder	1	
4	Steering shaft ass'y	1	
5	Hex bolt 5*12	3	
6	Split spring pin 6*24	1	
7	Internal cir clip	1	
8	Washer 26*39*1.5	1	
9	Steering drive gear	1	
10	Bush	2	
11	Hex flange nut with serration 8mm	4	
12	Hex washer face bolt 8*48	2	
13	Bush	2	
14	Spacer	2	
15	Rack cover	1	
16	Rack	1	
	Disassembly knuckles		
17	Cotter pin 2*19	2	
18	Nylon nut 10mm	2	
19	Ball joint, right thread	2	
20	Inner tie rod（rack end）	2	
21	Dust proof	2	
	Assembly knuckles 21→17 steering shaft Ass'y 16→1		• Assembling with sequence in reverse of disassembly. ∗ ***WARNING:*** Adjusting gap of throttle.

FRONT WHEEL / SUSPENSION / BRAKE / STEERING

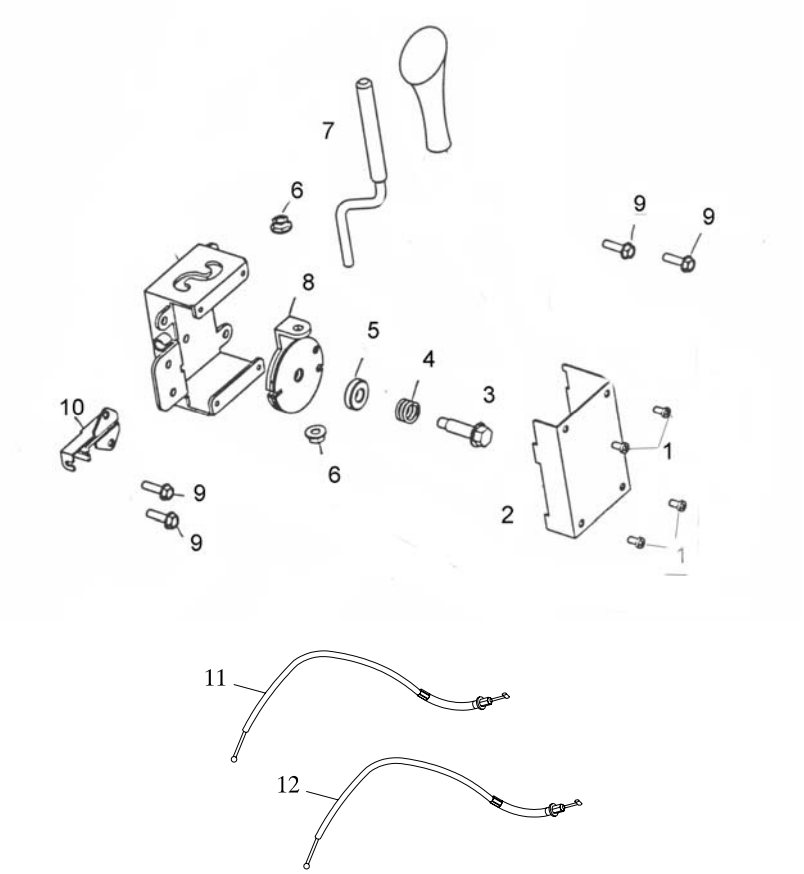
Disassembly of pedal system



seq	Operation / Parts name	Q'ty	Remarks
	Disassembly reverse		
1	Hex washer face bolt 10*70	1	
2	Brake arm	1	
3	Cotter pin 2*15	2	
4	Brake pedal comp.	1	
5	Hex washer face bolt 6*16	1	
6	Cable bracket	1	
7	Hex nut 6mm	2	
8	Pedal fix bracket	1	
9	Brake arm	1	
10	pin	1	
11	Drive nut	2	
12	Rear brake fixture	1	
13	Brake elbow	1	
14	Stop switch spring	1	
15	Stop switch ass'y	2	
16	Brake rod	1	
	Accelerator pedal		
17	Hex washer face bolt 10*60	1	
18	Hex nut 6mm	2	
19	Reset spring	1	
20	Throttle cable	1	
21	Accelerator pedal	1	
	Assembly Brake pedal 16→1 Accelerator pedal 21→17		• Assembly with sequence in reverse of disassembly.

FRONT WHEEL / SUSPENSION / BRAKE / STEERING

Assembly/Disassembly of reverse



seq	Operation / Parts name	Q'ty	Remarks
	Disassembly reverse		
1	Pan Phillips bolt 5*10	4	
2	Outer cover	1	
3	Fix shift	1	
4	Reset spring	1	
5	Collar	1	
6	Hex flange nut with serration	2	
7	8mm	1	
8	Shift lever	1	
9	Shift plate	4	
10	Seat lock ass'y	1	
11	Reverse cable a	1	
12	Reverse cable a	1	
	Assembly reverse 12→1		• Assembly with sequence in reverse of disassembly.

REAR WHEEL / SUSPENSION / BRAKE

Diagnosis of Troubles

Rear wheel shaking or deviation

- The shape of rear rim damaged.
- Rear wheel axle damaged.
- Swing arm sub Ass'y damaged
- Rear rim bearing defected.

Rear suspension too soft

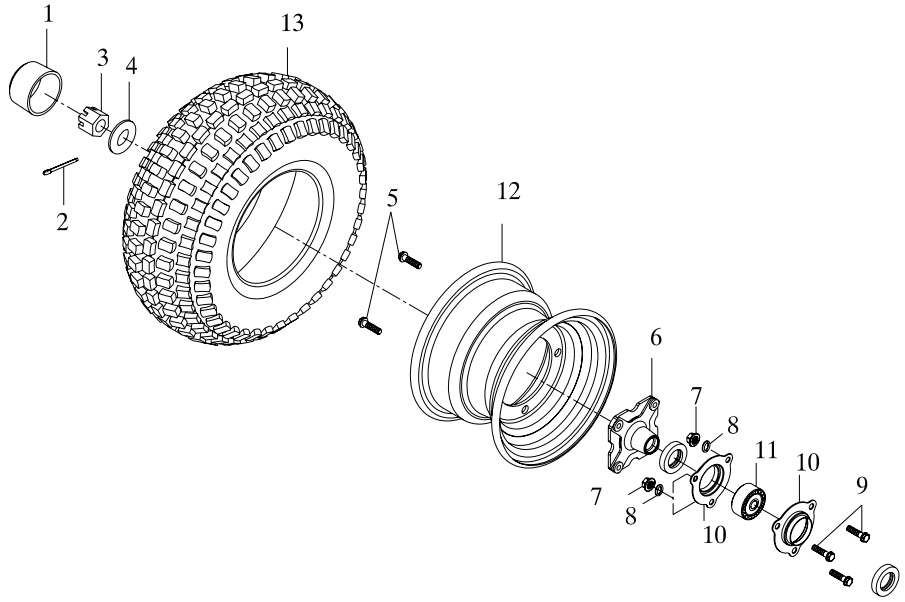
- Spring too soft or adjust not correct.

Brake efficiency abnormal

- Brake lining wear-out.
- Brake pads adjust not correct or wear out.
- Brake drum wear-out.
- Tire wear-out.

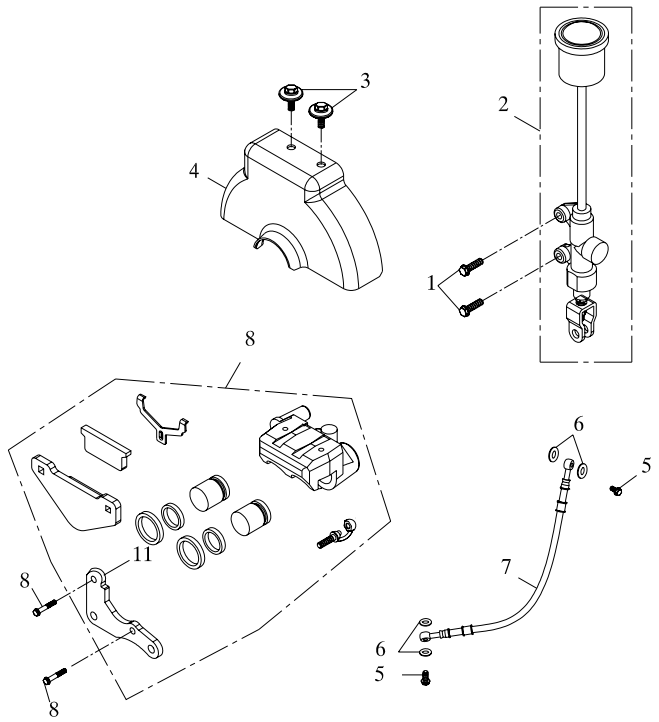
REAR WHEEL / SUSPENSION / BRAKE

Assembly/Disassembly Rear Wheel



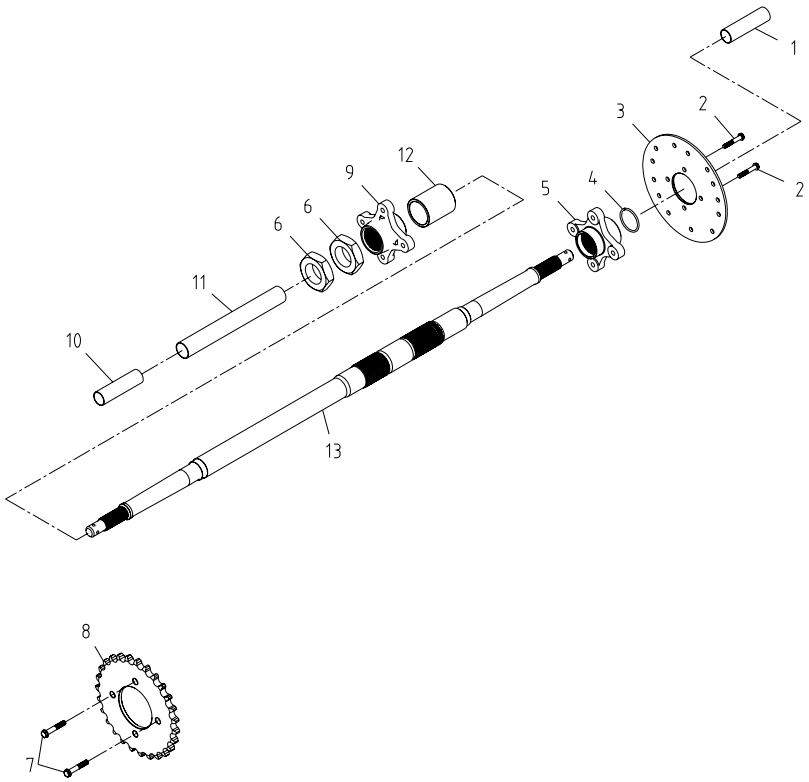
	Operation / Parts name	Q'ty	Remarks
	Disassembly (L/R)		
1	Rubber cover	2	
2	Cotter pin 3*32	2	
3	Scotch nut12mm	2	
4	Plain washer 12*40*4.5	2	
5	Front brake drum	8	
6	Hex washer face bolt	2	
7	Nylon nut 8mm	6	
8	Spring washer 8.5*13*2	6	
9	Hex washer face bolt 8*20	6	
10	Bearing holder	4	
11	Radial ball bearing	2	
12	Rim 8*7	2	
13	Tire 18/*9.5-8	2	
	Assembly 13→1		• Assembling with sequence in reverse of disassembly.

Disassembly / Assembly of Rear Brake



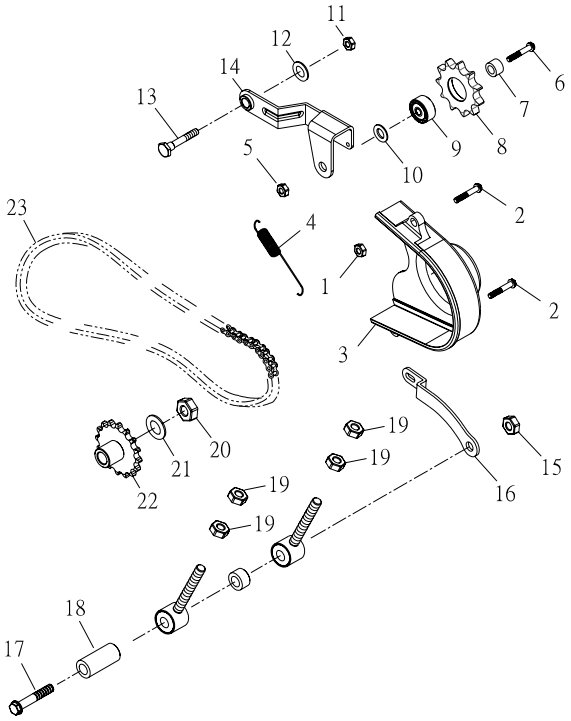
	Operation / Parts name	Q'ty	Remarks
	Disassembly Rear Brake		
1	Hex washer face bolt 8*12	2	
2	Rear brake cylinder sub ass'y	1	
3	Ladder bolt 6*14*2.5	2	
4	Front brake disc cover	1	
5	Brake hose hex nut 10*22	2	
6	Plain washer 10*/14.5*5	2	
7	Rear brake hose	1	
8	Hex washer face bolt 10*87	2	
9	Rear brake caliper ass'y	1	
	Assembly Rear break 9→1		● Assembly with sequence in reverse of disassembly.

Disassembly / Assembly of rear axle



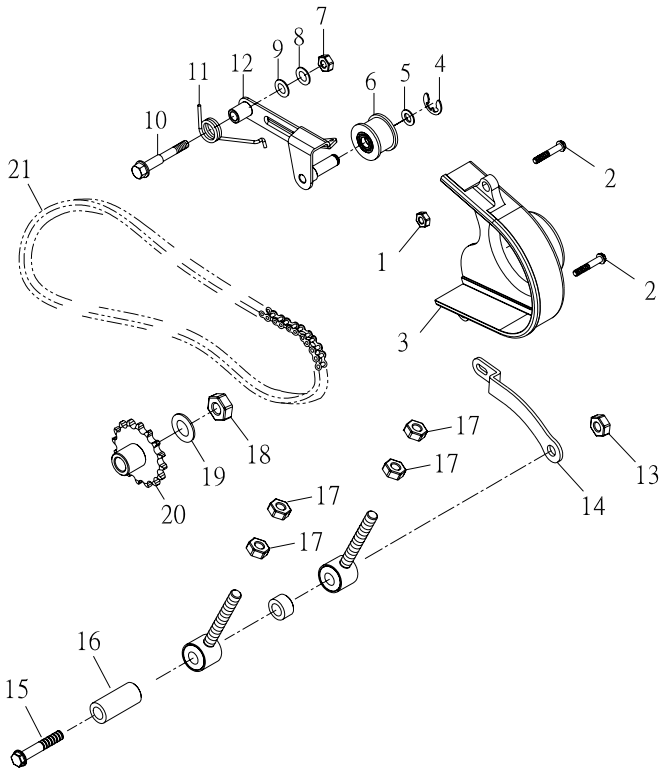
seq	Operation / Parts name	Q'ty	Remarks
	Disassembly rear axle Plastic		
1	spacer	1	
2	Hex washer face bolt 8*20	4	
3	Brake disc	1	
4	Retainer	1	
5	Rear sprocket hub	1	
6	Hex nut M33*14	2	
7	Hex washer face bolt 8*20	4	
8	Rear sprocket	1	
9	Rear sprocket hub	1	
10	Plastic spacer	1	
11	Plastic spacer	1	
12	Spacer collar	1	
13	Rear axle	1	
		1	
	Assembly		● Assembly with sequence in reverse of disassembly.
	13→1		

Disassembly / Assembly of chain



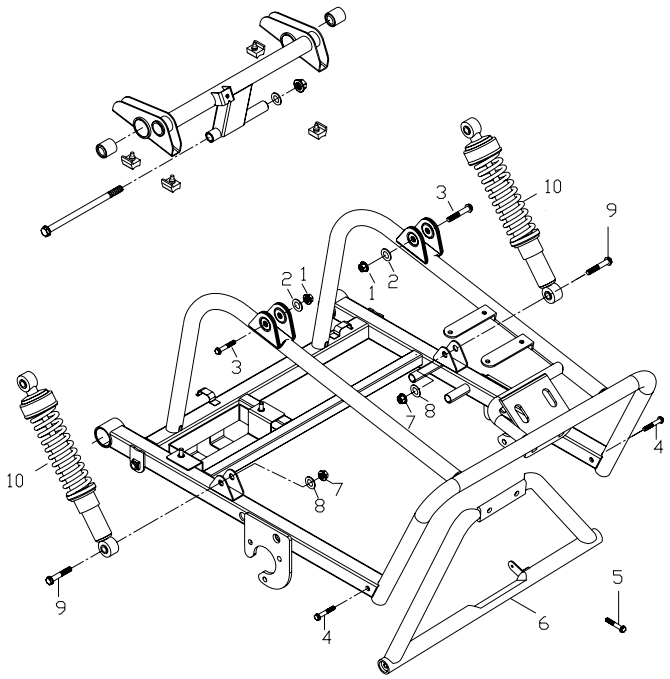
seq	Operation / Parts name	Q'ty	Remarks
	Disassembly chain removal		
1	Hex flange nut with serration	1	
2	Hex washer face bolt 6*30	2	
3	Rear chain cover	1	
4	Idle sprocket spring	1	
5	Nylon nut 10mm	1	
6	Hex washer face bolt 10*32	1	
7	Spacer tube	1	
8	Idle sprocket	1	
9	Radial ball bearing	1	
10	Plain washer 10*17*2.5	1	
11	Nylon nut 8mm	1	
12	spring washer 8.2*18*0.8	1	
13	idle sprocket shift	1	
14	idle sprocket	1	
15	nylon nut 10mm	1	
16	spacer	1	
17	Hex washer face bolt 10*155	1	
18	Rear axle	1	
19	hex flange nut with serration	2	
	12mm	1	
20	Nylon nut 14mm	1	
21	Plain washer 15*29*3	1	
22	Drive sprocket ass'y	1	
23	Drive chain	1	
	Assembly		● Assembly with sequence in reverse of disassembly.
	23→1		

Disassembly / Assembly of chain (chain roller)



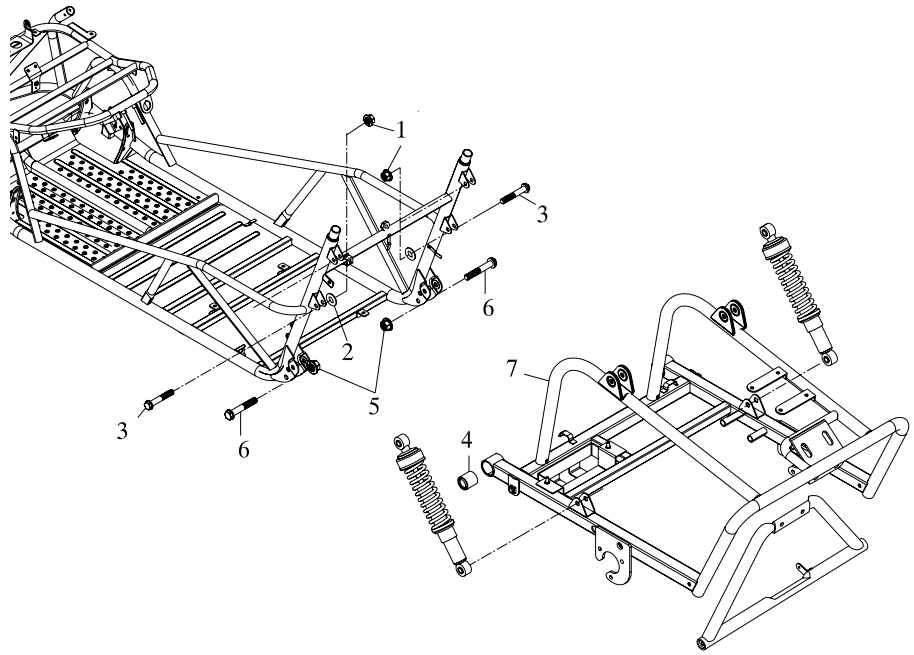
seq	Operation / Parts name	Q'ty	Remarks
	Disassembly chain removal		
1	Hex flange nut with serration	1	
2	Hex washer face bolt 6*30	2	
3	Rear chain cover	1	
4	External cir clip	1	
5	Plain washer 12*18*1.2	1	
6	Chain roller	1	
7	Nylon nut 8mm	1	
8	Plain washer 8*14*2	1	
9	Plain washer 8.2*18*0.8	1	
10	idle sprocket shift	1	
11	idle sprocket spring	1	
12	idle sprocket bracket	1	
13	nylon nut 10mm	1	
14	bracket	1	
15	Hex washer face bolt 10*155	1	
16	spacer	1	
17	hex flange nut with serration 12mm	4	
18	Nylon nut 14mm	1	
19	Plain washer 15*29*3	1	
20	Drive sprocket ass'y	1	
21	Drive chain	1	
	Assembly 21→1		● Assembly with sequence in reverse of disassembly.

Assembly/Disassembly of engine mounting bracket & Rear Cushion



seq	Operation / Parts name	Q'ty	Remarks
	Disassembly engine mounting bracket		
1	Nylon nut 10mm	2	
2	Plain washer 10*22*2	2	
3	Hex washer face bolt 10*55	2	
4	Hex washer face bolt 8*40	2	
5	Hex washer face bolt 8*20	2	
6	R. cross bar	1	
	Disassembly Rear cushion		
7	Nylon nut 10mm	2	
8	Plain washer 10*17*1.5	2	
9	Hex washer face bolt 10*40	2	
10	Rear cushion	2	
	Assembly engine mounting bracket 6→1 Rear cushion 7→10		• Assembly with sequence in reverse of disassembly.

Assembly/Disassembly of engine rack ass'y



Seq.	Operation / Parts name	Q'ty	Remarks
	Disassembly engine rack		
1	Nylon nut 10mm	4	
2	Plain washer 10*22*1.5	2	
3	Hex washer face bolt 10*48	1	
4	Rubber bush	2	(※ replace if necessary)
5	Hex flange nut with serration 12mm	2	
6	Hex washer face bolt 12*65	2	
7	Engine bracket ass'y	1	
	Assembly engine rack 7→1		• Assembly with sequence in reverse of disassembly.

BATTERY, CHARGE AND IGNITION SYSTEM

INFORMATION FOR PREPARATION

∗ Battery electrolyte contains sulfuric acid, which can cause severe burns. Avoid contact of skin, eyes, or clothing
∗ When sulfuric acid water spill into clothing will stick to skin. Take off the clothing and flush with water.

- Battery can be charged and discharged. Without charging, the battery will have less lifetime and damaged after discharged.
- If the battery have short circuit inside, both terminal will not have voltage existed. Besides, the regulator rectifier lost the function and shorter lifetime.
- If the battery stay too long without use, it will lost power and have less capacity. The battery need to charge each 2~3 months.
- After fill up the electrolyte, the new battery will generate voltage. It's necessary to recharge if the voltage is low. It's necessary to leave the battery for more than 20 minutes before sealing the cap. It will increase the lifetime of new battery if recharged before installed.
- Do not unplug the electrical components from wire hardness when the current is working. This will cause too high of voltage and damage other compounds such as rectifier, light bulbs…etc. Turn off the main switch to OFF before the operation.
- The Maintenance Free battery does not need to refill electrolyte or water.
- All charge system needs to be load before check.
- Do not use quick charge unless it's in urgent.
- The battery needs to be taking out from vehicle when doing charge work.
- When checking the voltage, must use the electrical meter.

TROUBLE DIAGNOSE

No Electrical Power

- Over discharged of the battery.
- Wire hardness did not connected to the battery.
- Fuse broken.
- Main switch defect.

Low Voltage

- Battery charges insufficient.
- Bad connection
- Charge system defect.
- Regulator rectifier defect.

No Continues Current

- Bad contact of battery with main wire hardness
- Bad connection of charge system
- Bad contact of the lighting system cause short circuit

Charge System no function

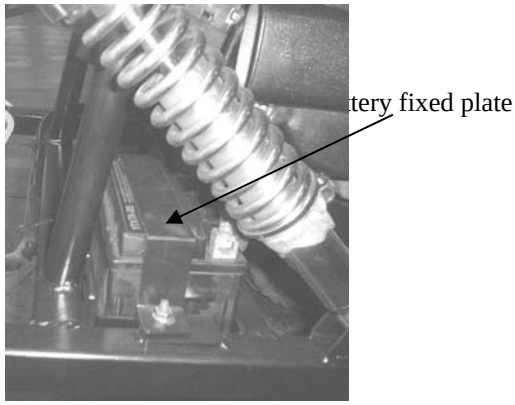
- Bad connection of the wire hardness connectors
- Main wire hardness broken or short-circuit
- Regulator rectifier defect.
- AC Generator defect.

BATTERY, CHARGE, AND IGNITION SYSTEM

BATTERY

Remove the battery

- Take off the battery fixed plate.
- Disconnect the – wire (GR) than the + wire (RD).



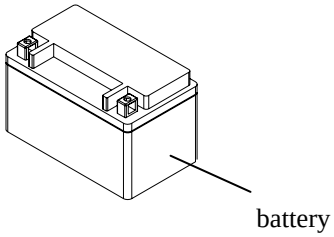
∗ Beware not to contact with frame body when disconnect the + terminal. It will damage the battery even the flaming will cause fire with gasoline.

- Check the voltage after disconnected.
- Measure the voltage from both terminals.

Fully charged: 12.8V
Charge insufficient: 12.0V

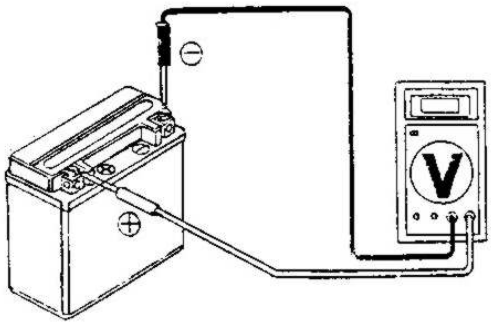
∗ Connect the + wire (RD) than the – wire (GR) to avoid short circuit.

- Installation based on reversed procedure.

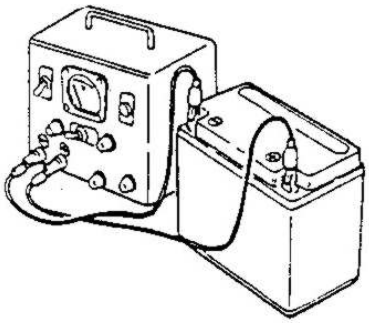


CHARGE

Connection: Charger + to battery +
Charger – to battery –



∗ Avoid any flaming material around the battery.
∗ Turn off the charger, before start or after finish the charge operation. The spark may cause explosion during connecting.
∗ Please follow the charge instruction on battery as the operation standard.



∗ Don't use quick charge unless urgent.
∗ Measure the voltage after finish charge for 30 minutes.

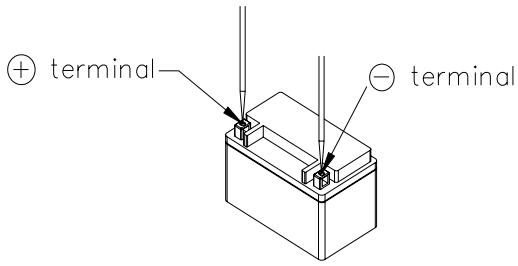
Charge current: standard: 0.7A
Charge time: standard: 5~10 Hr.
Battery voltage: above 12.8V

BATTERY, CHARGE, AND IGNITION SYSTEM

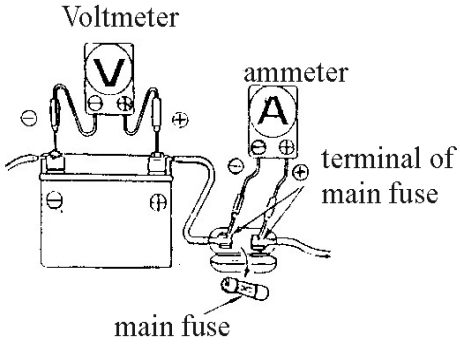
CHARGE SYSTEM

Check the charge condition

- The battery must be full charged in order to check the charge condition. Use electrical meter for measuring.
- After engine warm up and use the full charged battery to check.
- Connect the voltage meter on both terminal of battery.
- After start-up the engine, disconnect the fuse and connect the current meter on both end of the wire terminals.
- Use RPM meter to measure the engine revolution.
- Slightly increase the engine revolution to measure the voltage and current.



Charge voltage and current:
13.5~15.5V / 1.0 A under 5000rpm



- If the value does not meet the requirement, check the regulator rectifier.

Check the headlight charge condition

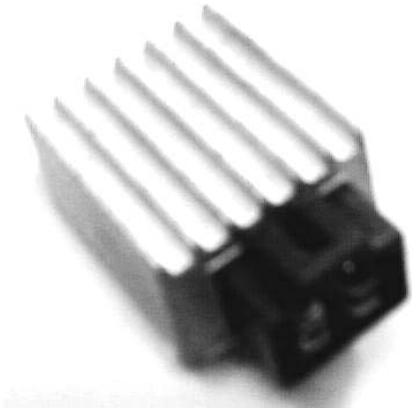
- Remove the headlight cover.

∗ Set the electrical meter on AC stage.

- Check from the headlight connector.

Voltage: 12~14V (AC) / 5000rpm

- If the value does not meet the requirement, check the regulator rectifier.



Regulator rectifier

- Measure the resistance of each terminal.

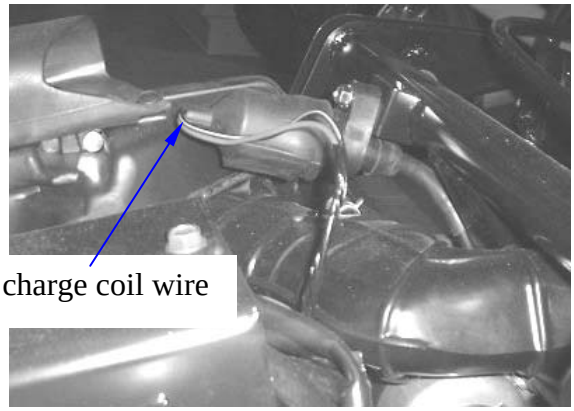
–	White	Yellow	Red	Green
White		∞	3-100k	∞
Yellow	∞		∞	5-100k
Red	∞	∞		∞
Green	∞	5-100k	∞	

Check the coils of AC Generator

Charge coil

- The check for charge coil of ACG can be done on engine assembly.
- Disconnect the 4P connector of ACG.
- Measure the resistance between ACG white wire and ground green wire.

Resistance: 0.2 Ω (20°C)



Lighting coil

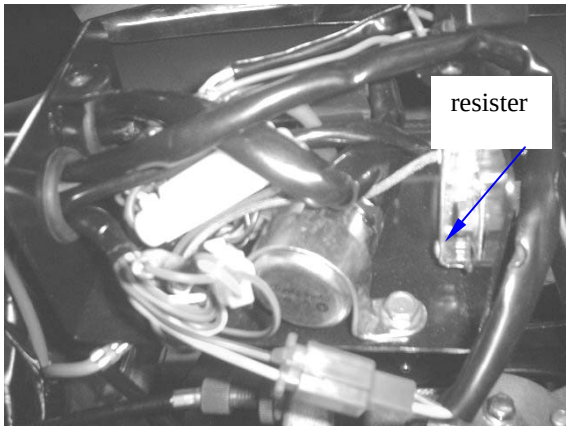
- The lighting for charge coil of ACG can be done on engine assembly.
- Measure the resistance between ACG yellow wire and ground green wire.

Resistance: 0.1~1.0 Ω (20°C)

Check resister

- Measure the resistance between the resister and ground green wire.

Resistance: 5W5.0 Ω : 4.0~6.0 Ω

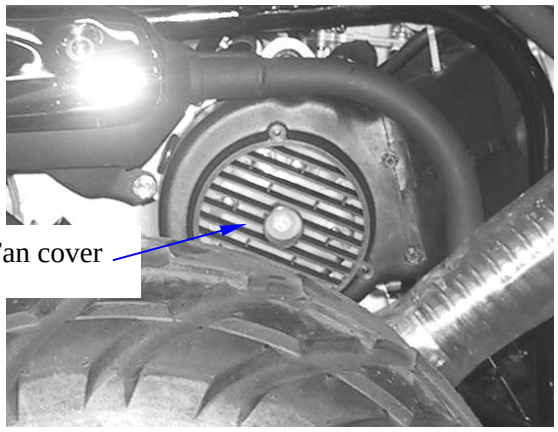


Remove the AC Generator

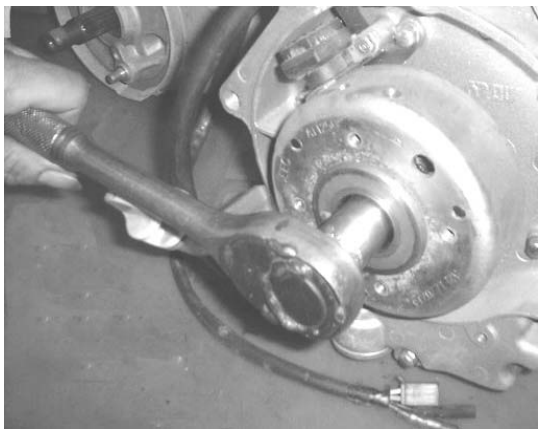
Disassembly

- Remove the R body cover.
- Unscrew 2 fixed bolts and 2 tapping screws.
- Remove the cooling fan cover.

- Unscrew 4 fixed bolts on cooling fan and remove the fan.



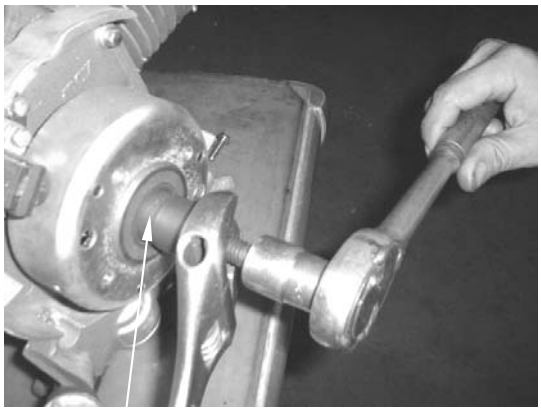
- Use fixed spanner to hold the flywheel of generator.
- Unscrew the nut on flywheel.



- Use flywheel puller to remove the generator flywheel.

special TLPT-01

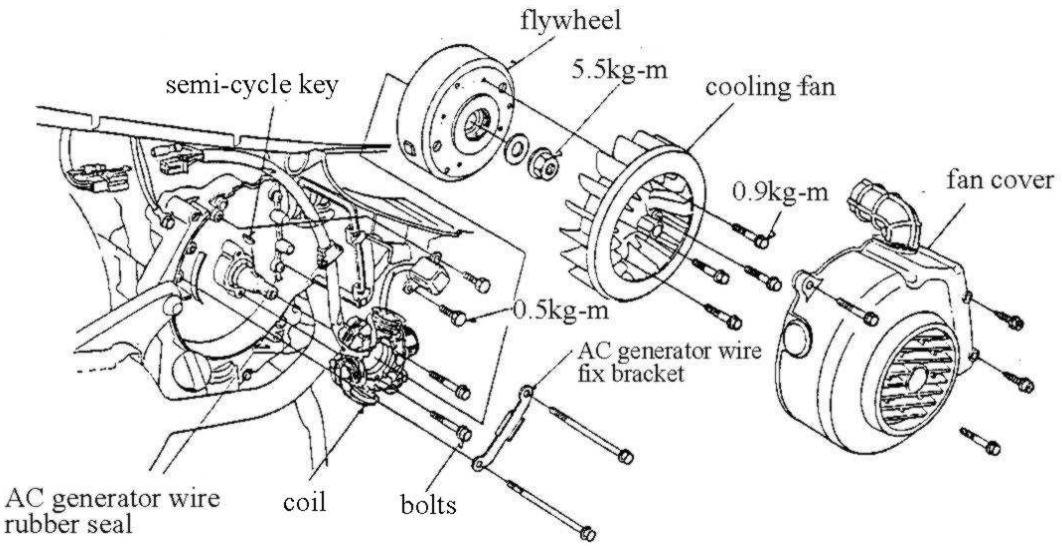
- Remove the semi-cycle key.
- Unplug the AC generator connecting wires.



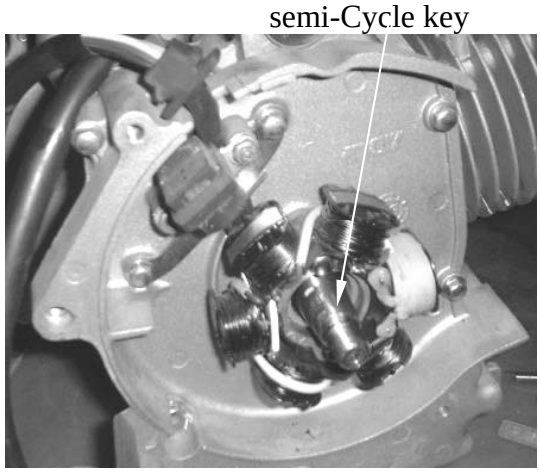
flywheel puller

- Remove the wire fix bracket.
- Take off the pulsar coil fixed bolts.
- Remove the rubber seal from crankcase and take off the generator.
- Remove the pulsar coil.

Installation



BATTERY, CHARGE, AND IGNITION SYSTEM



- Follow the reverse sequence to do the assembly operation.

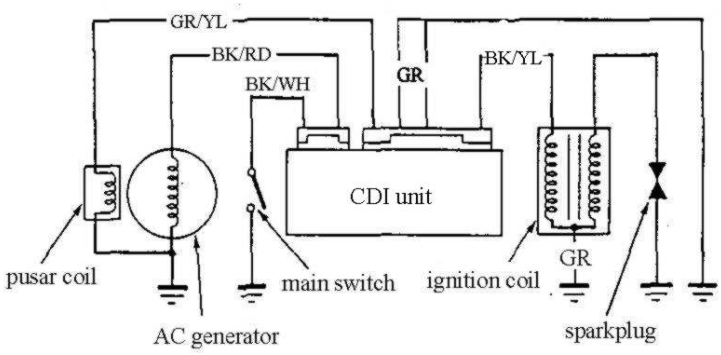
- When install the flywheel, be sure the semi-cycle key is installed into crankshaft at correct position.

* Be sure inside of the flywheel do not have any nuts or screws which will damage the generator coil.

- Install the flywheel with spanner tool and tie-up the fixed nut.

Locking torque: 5.5 kg-m

IGNITION SYSTEM



HIGH TENSION COIL

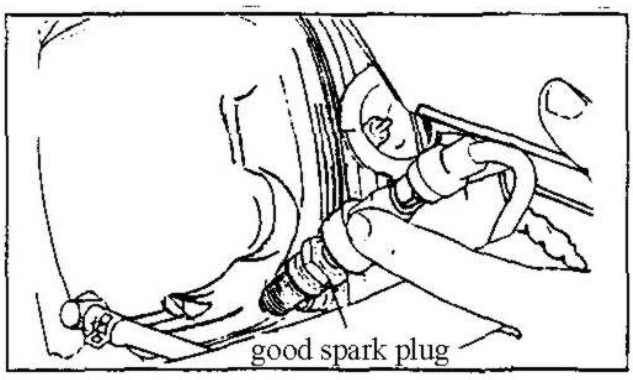
Remove

- Remove the spark plug and connect with the cap.

Check

- Make the spark plug contact with ground and press the start button.
- Check is there any spark on the gap of spark plug.

* During the test, do not touch any metal parts to avoid electrical shock.



- Primary coil is measured 2 terminals behind ignition coil.
- Remove the spark plug cap and 2 wires behind the coil.
- Check the resistance of primary coil.

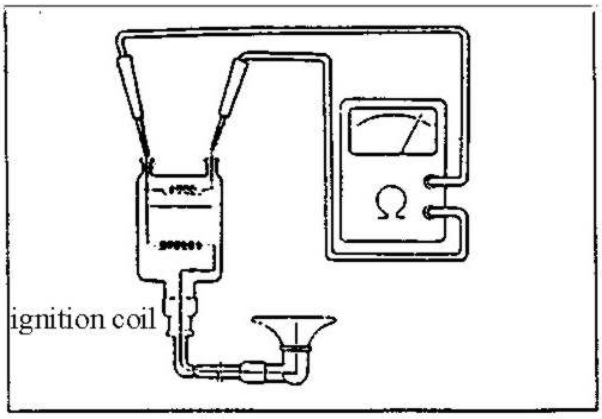
Standard: 0.1~1.0 Ω (20 °C)

- If the resistance reads "∞" then replace new coil.
- Measure the resistance between the spark plug cap and one terminal.

Standard: 7~12 KΩ (20 °C) with cap

- Remove the spark plug cap and measure again.

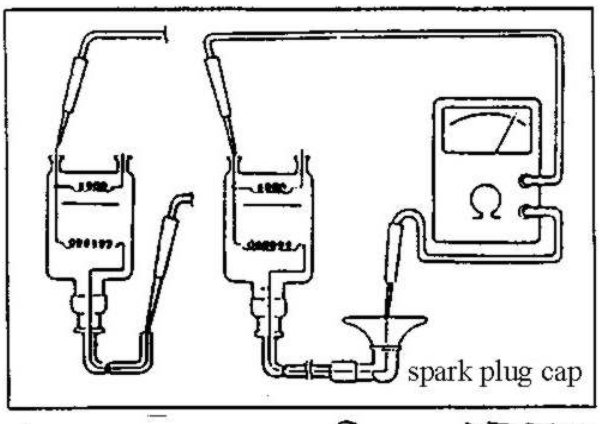
Standard: 3~5 KΩ (20 °C) without cap



AC Generator pulsar coil

- Remove the R side cover.
- Measure the resistance between pulsar wire (green/yellow) and ground wire (green).

Standard: 40~300 Ω (20 °C)



ELECTRICAL DEVICE

Check Main Switch

- Remove connector of main switch wire, check conductivity between each terminal.

Color	R	BR	BK/W	GR	GR/W	GR
OFF			○———	○		
ON	○———	○				
START	○———	○			○	———○

Remove main switch

- Disconnect main switch wire.
- Pull the main switch Bracket inside front cover.
- Push the stopper on main switch underneath front cover then push out the main switch.

Color	R	BR	BK/W	GR	GR/W	GR
OFF			○———	○		
ON	○———	○				
START	○———	○			○	———○

- **Check Left Switch**

HORN

Color	GR	PI
FREE		
PUSH	○	○

WARNING LIGHT

Color	DBR	BR/W	DGR
△	○	○	○
•			

Engine start

Color	GR	BK/W
Restore		
Pull	○	○

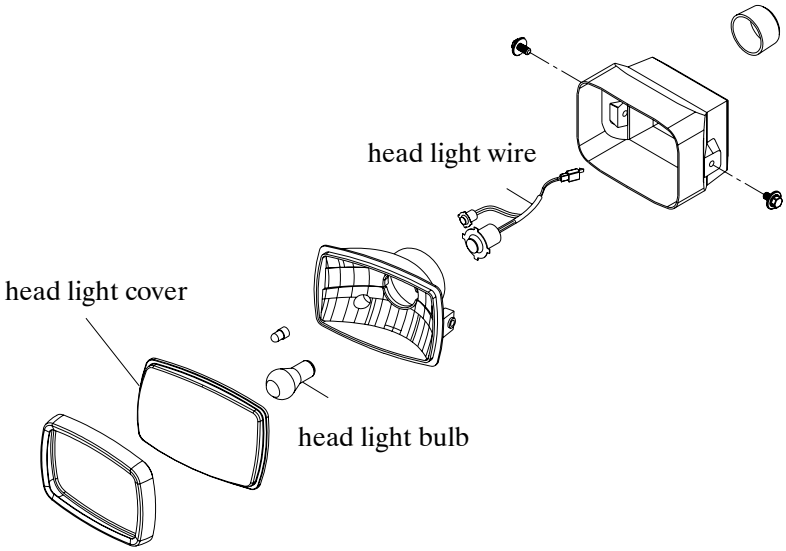
Head Light Witch

Color	BL/W	YL	BL
	○——○		
		○——○	

Exchange of Bulbs

Head light bulb

- Press down the bulb base and turn left to change head light bulb.



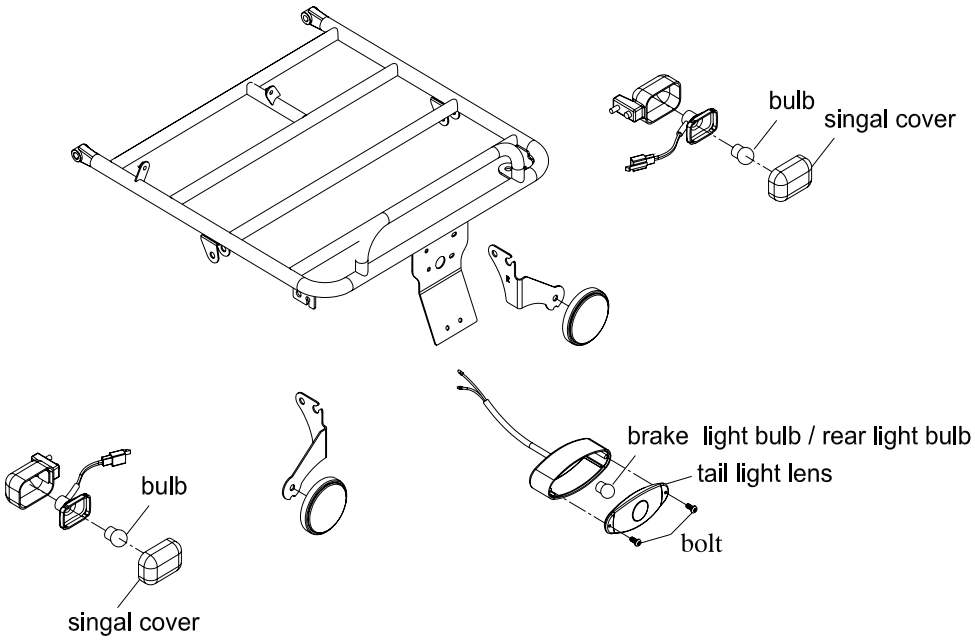
ELECTRICAL DEVICE

Rear light bulb / Brake light bulb / Rear direction light bulb

- Remove 2 screws, pull out the light cover then change bulb.
- Remove R/L screw on direction light cover, pull out the cover then replace the bulb.

SIGNAL Light Witch

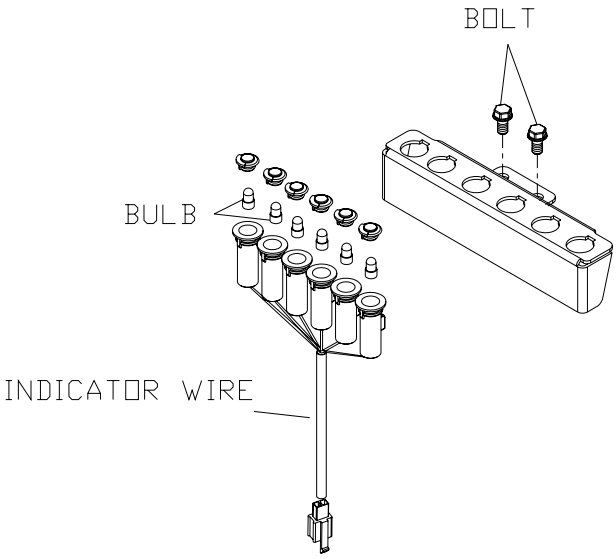
Color	DBR	BR/W	DGR
⇨		○	○
N			
⇦	○	○	



ELECTRICAL DEVICE

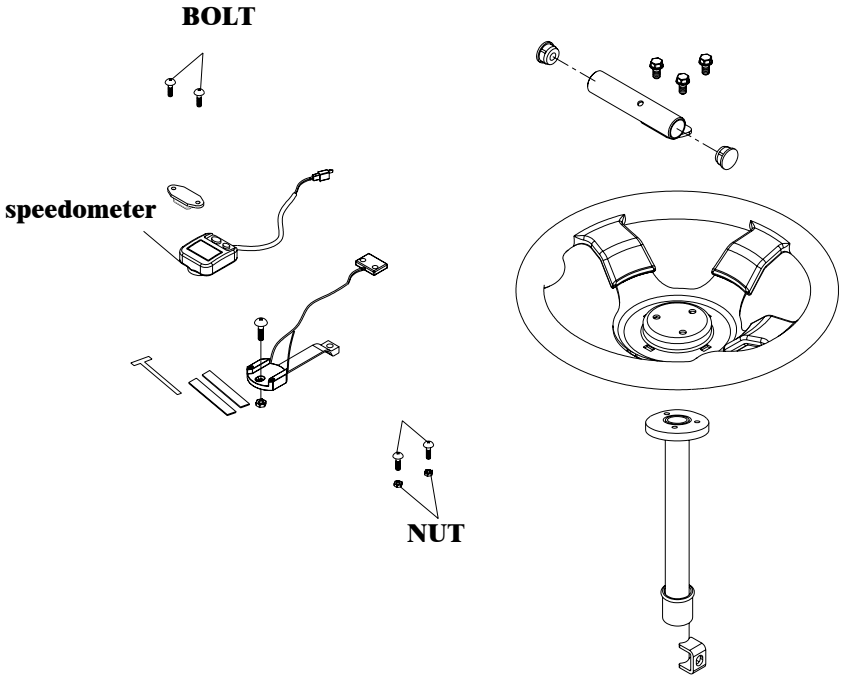
pilot lamp

- Press down the bulb base and turn left to change bulb.



SPEEDOMETER

- Remove speedometer bracket



STARTING SYSTEM

TROUBLE DIAGNOSE

Can Not Start

- Fuse broken
- Low power of the battery
- Starter clutch defect
- Main switch defect
- Break lever switch defect
- Starter relay defect
- Bad connection of wiring
- Starting motor defect

Low Power of Starting Motor

- Low power of the battery
- Bad contact of wire connectors
- Starting motor gear abnormally stock.

Starting Motor working, engine does not working.

- Starter clutch defect
- Rotation reversed of starting motor due to wrong connection.
- Low power of battery

STARTING MOTOR

Disassembly

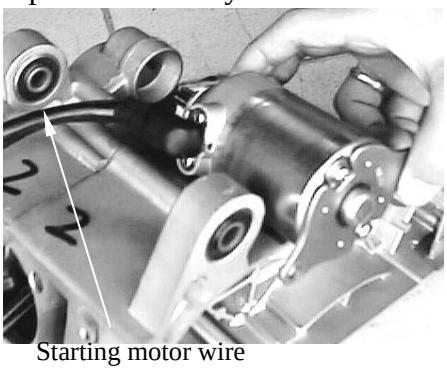
∗ Before remove the starting motor, turn off the main switch first.
∗ To ensure the safety, remove the ground (green) wire from battery and turn on the main switch to check the motor rotates or not.

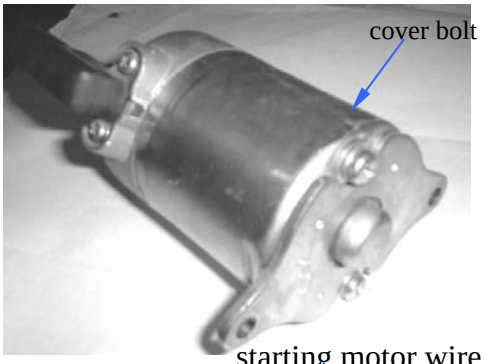
- Remove the wire strip of starting motor.
- Take off 2 bolts and remove the motor
- Remove the rubber cover and disconnect the wire.
- Check the movement of starting motor shaft.
- Check the motor rotation by connecting full charged battery direct to the starting motor.

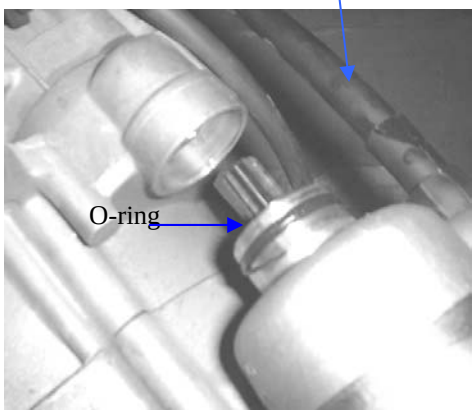
∗ When using the battery test motor, be sure to hold the motor tightly to avoid damage.

Installation

- Installation is based on reversed sequence.
- Check all wiring, connectors, rubber covers, and O-ring are installed correctly.
- Grease the O-ring and install the starting motor with 2 bolts.







STARTING SYSTEM

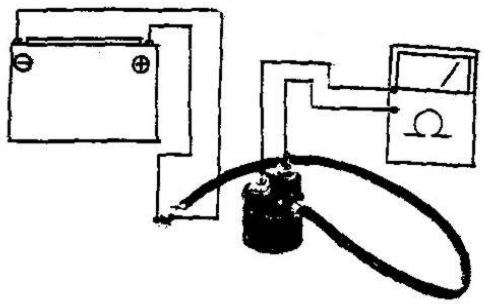
STARTER RELAY

Function check

- Remove the R body cover.
- Turn on main switch and hold the brake lever then press the start bottom.
- The starter relay will make “CLICK” sound.

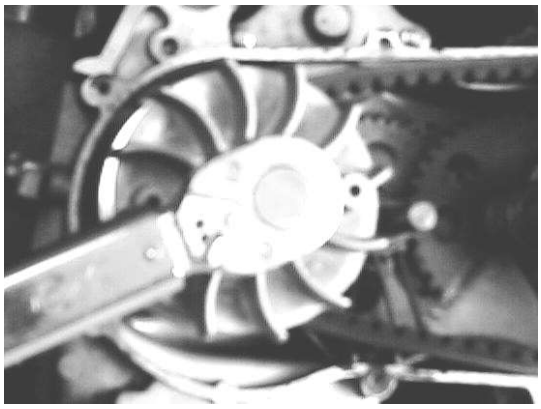
The “CLICK” sound is normal.

- Check the function if no “CLICK”



Check

- Remove the starter relay and connect with battery and test meter.
- Using full charged battery connect with the yellow/red and green/yellow wires of the relay.
- When the battery connect to starter relay, the current should pass between 2 terminals.



STARTER CLUTCH

Disassembly

- Remove the R crankcase cover.
- Remove the L crankcase cover.
- Using the fixed spanner to hold the primary drive face then remove the nut.

- Remove the fixed nut of starter clutch.

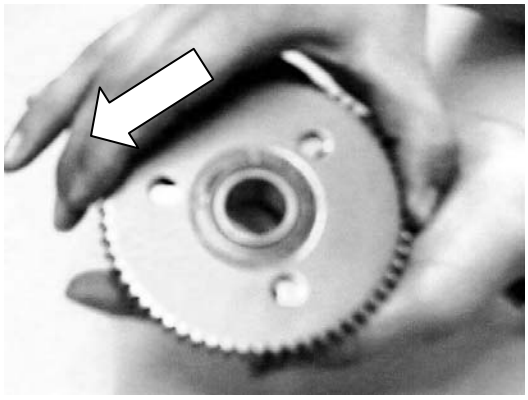
∗ Loose the fixed nut is in clock-wise direction.

- Take out the starter clutch assembly.
- Remove the starter idle gear shaft and the gear.

STARTING SYSTEM

Check the starter clutch assembly

- Put the starter clutch together with drive gear to check the movement.
- The starter drive gear can only rotate in clock-wise direction. Counter clock-wise rotation will fixed to hold the clutch body.



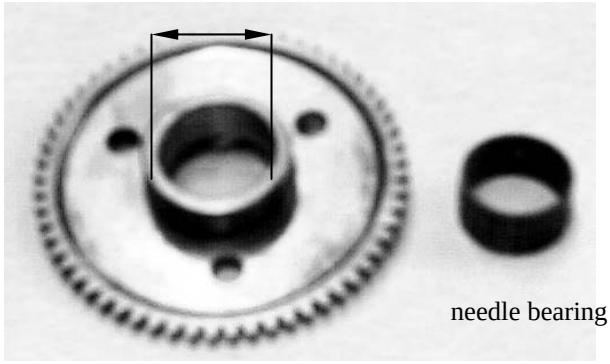
Disassembly

- Check the contact surface of drive gear and rollers. Replace if damaged.
- Measure the inside diameter of starter drive gear.

Working limit:

Replace if over 32.1mm

- Check the needle bearing and replace if damaged.

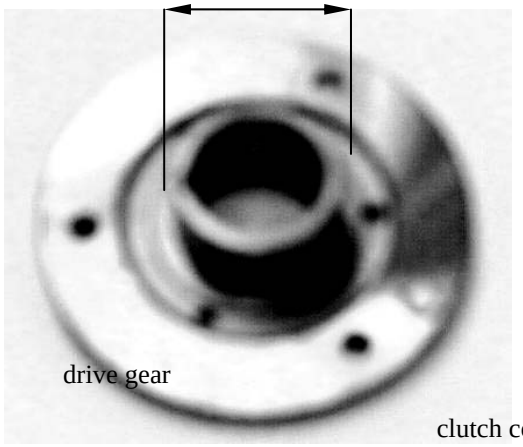


- Disassemble the starter-clutch body.
- Check 3 springs and working surface of the clutch body with rollers.

Replace if abnormal.

- Measure the outside diameter of clutch cover.

Replace if below 27.9 mm

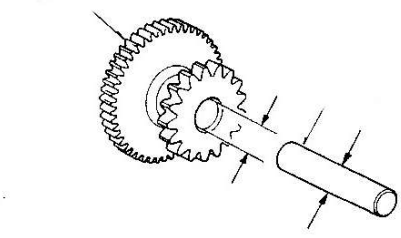


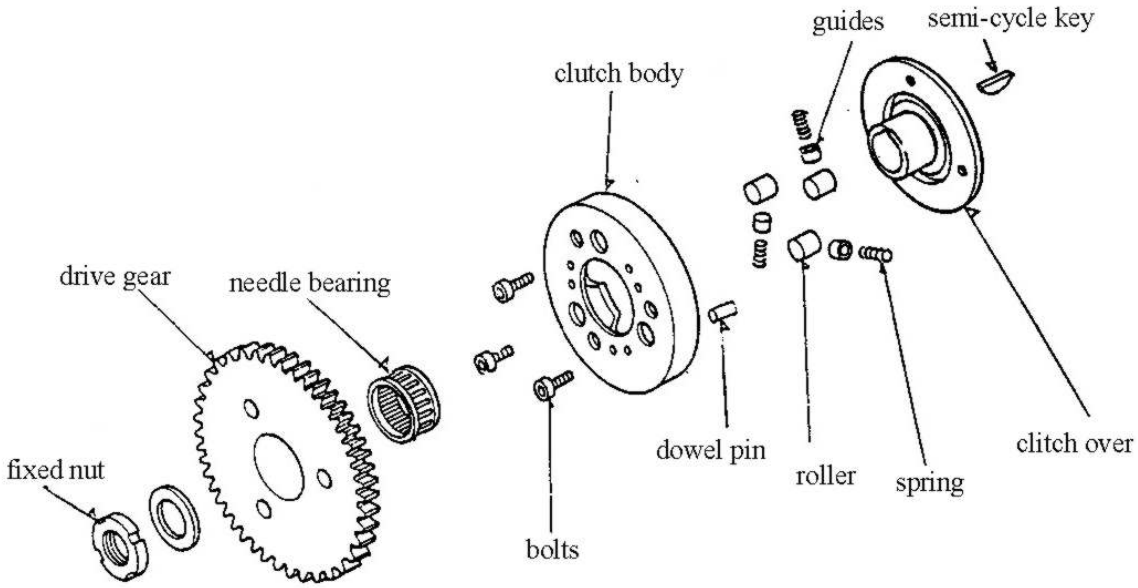
- Measure the inside diameter of starter idle gear.

Replace if over 10.1 mm

- Measure the outside diameter of idle gear-shaft and check the movement between the gear and shaft.

Replace if below 9.9 mm





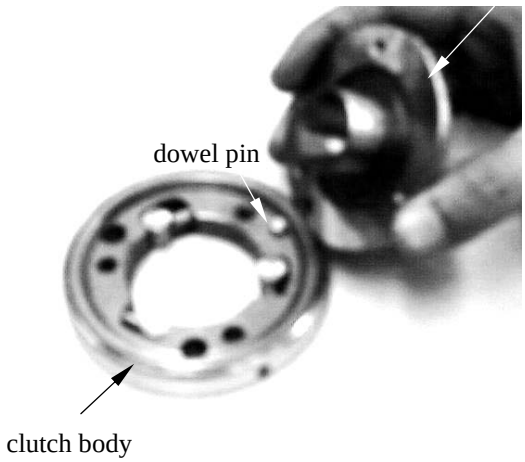
Assembly and Installation

- Install the springs and rollers into clutch body.
- The dowel pin must fit into correct position between the clutch body and cover.

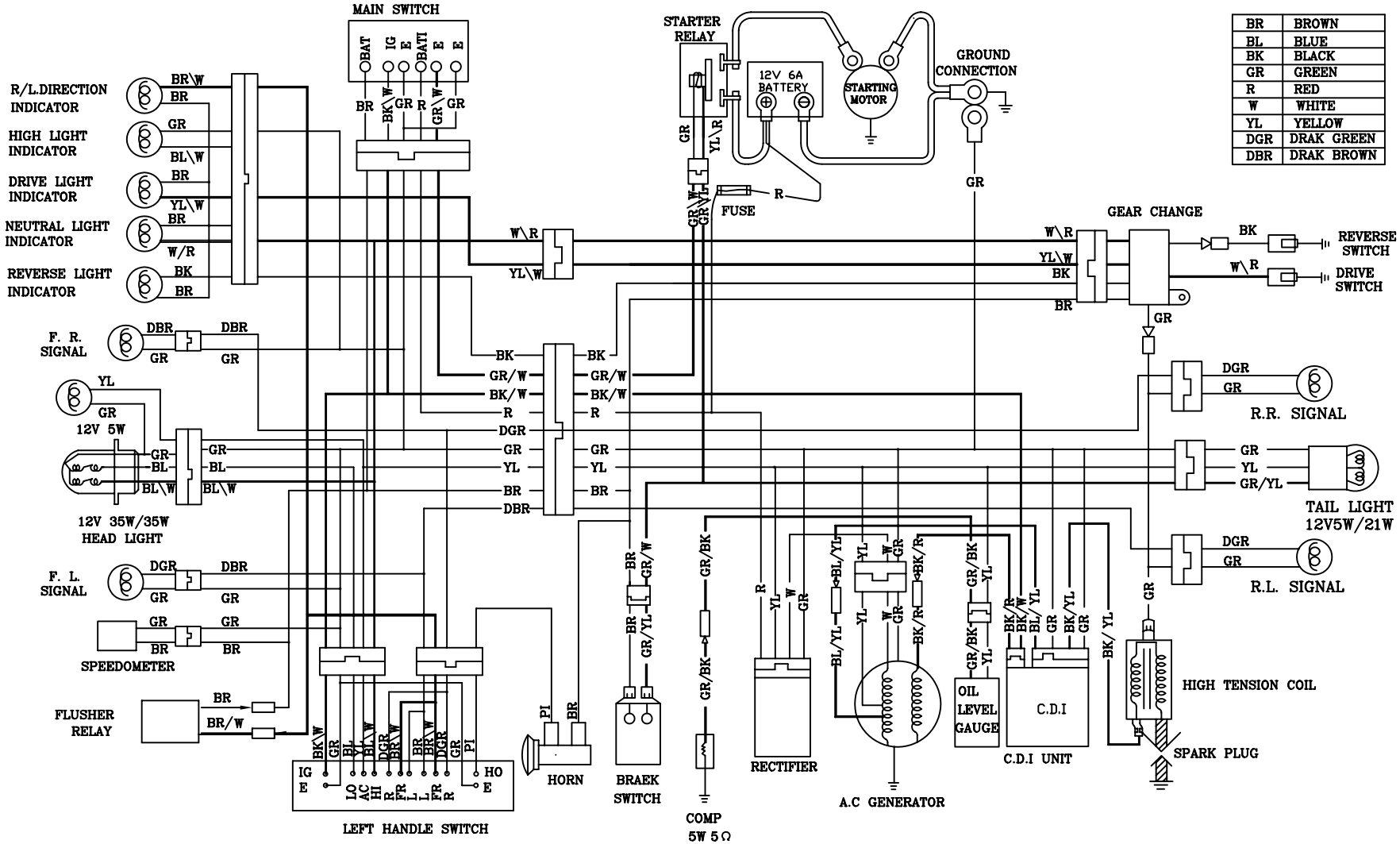
The clutch cover or 3 bolts should use lock-tie glue to ensure the tightness.

- Grease the needle bearing and install into the clutch body with starter drive gear.

- Install the starter clutch assembly aim at the semi-cycle key of crankshaft
- Install the starter idle gear, gear shaft, and R crankcase cover base on reversed sequence.



GK-125R(92/61) ELECTRICAL DIAGRAM



BR	BROWN
BL	BLUE
BK	BLACK
GR	GREEN
R	RED
W	WHITE
YL	YELLOW
DGR	DRAK GREEN
DBR	DRAK BROWN

MAIN SWITCH

	BAT	IG	E	BAT	ST
OFF		○	○		
ON	○			○	
ST	○			○	○

GEAR CHANGE CONTROL

	E	E
D	○	○
N		
R	○	○

SIGNAL SWITH

	R	L	FR
L		○	
N			
R	○		○

STOP SWITCH

	IG	E
RELEASE		
PRESS	○	○

HORN

	HO	E
FREE		
PUSH	○	○

HIGH/ LOW BEAM LIGHT TURN SWITH

	HI	LO	AC
HIGH	○		○
LOW		○	○
N			

WRANING LIGHT

	R	L	FR
ON	○	○	○
OFF			

BAT: BATTERY
IG : IGNITION
E : GROUND(EARTH)
ST : START
AC: A.C GENERATOR
FR : FLUSHER RELAY